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THE  
NORTHERN  
JOURNAL OF MEDICINE;  
A  
MONTHLY SURVEY  
OF THE  
PROGRESS OF MEDICAL KNOWLEDGE  
AT HOME AND ABROAD.

EDITED BY  
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WITH THE ASSISTANCE OF A BODY OF GENTLEMEN ENGAGED IN THE PRACTICE  
AND TEACHING OF MEDICINE.

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# THE NORTHERN JOURNAL OF MEDICINE.

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## PART I.—ORIGINAL ARTICLES.

*Excision of the Eyeball in Cases of Melanosis, Medullary Carcinoma, and Carcinoma; with Remarks.* By J. ARGYLL ROBERTSON, M.D., F.R.S.E., Lecturer on Surgery, &c. &c.

IN the course of my practice, I have been called upon to perform the operation of excision of the eyeball in sixteen of the following cases, in which that organ was affected with diseases reputed malignant:—

### *Melanosis.*

1. James Cowan,	æt.	50,	cured.
2. Jane Murphy,	...	58,	cured.
3. Alexander Nicol,	...	47,	cured.
4. David Wilson,	...	52,	cured.*
5. John Cross,	...	49,	doubtful.
6. Mrs Kerr,	...	55,	cured.

### *Medullary Carcinoma of the Eye.*

7. Elizabeth Williamson,	æt.	8,	returned.
8. Jane M'Pherson,	...	1½,	returned.
9. Peter Johnston,	...	5,	returned.
10. John Richardson,	...	4,	returned.
11. John Graham,	...	56,	cured.

### *Scirrhus and Medullary Carcinoma of Appendages of Eye.*

12. James Grant,	æt.	60,	cured.
13. John Williamson,	...	62,	returned.
14. Robert Wilson,	...	60,	returned.
15. William Ross,	...	50,	cured.
16. Mrs Walker,	...	62,	cured.
17. Grizzel Syme,	...	60,	died.

### MELANOSIS.

It is only since the beginning of the present century that the attention of the profession has been directed to this peculiar morbid condition, and its true characters are as yet in a great measure unknown.

\* Operated on by my colleague Dr Duncan.



Müller, in his work on cancer, considers it as a mere variety of that disease, and terms it carcinoma melanosis. It would appear, however, that he has come to this conclusion without sufficient data. The only fact indeed which he adduces is, "that he has often seen carcinoma reticulare of the eye and of the orbit combined with melanosis, some lobules of the morbid growth being more or less completely occupied by melanosis, while other parts displayed the ordinary network made up of white corpuscles characteristic of carcinoma reticulare."

Although in many cases we find tumours of a truly carcinomatous character, more or less spotted with melanotic matter, or even with masses of this substance deposited in them, and though such tumours are accompanied by all the pathognomonic symptoms of carcinoma, and follow the usual course of that affection, nevertheless these circumstances afford no proof of any similarity between the two deposits, or of any necessary connexion between the two diseases. On similar grounds we might arrive at the conclusion, that simple fibrous tumours are a variety of carcinoma, because we often meet with these taking on a malignant action, and find a carcinomatous deposit in their structure.

On the other hand, cases of pure melanosis are constantly occurring, which do not present in their structure, or in the symptoms which attend their progress, almost a single symptom of carcinoma.

Melanosis is, in so far as is known, an unorganized mass, neither vessels nor nerves being to be traced into its substance. Hence it is incapable of assuming any morbid action, or of propagating such to contiguous parts, and produces no effects but what are dependant on its mechanical agency. In all of these respects it differs most essentially from carcinoma. In melanosis no pain is complained of but what may justly be attributed to the effects of mechanical pressure or distention. Hence, when seated in parts of a loose texture, little or no suffering is experienced; or, if seated in parts of firm texture, in which it gives rise to pain from distention, that pain is at once relieved by removing the state of tension, as by incision. This occurred in two cases within the eyeball, in which the pain, tension, and throbbing, under which the patients suffered, were at once abated by a puncture allowing the escape of a portion of the fluid contents of the eyeball mixed with the melanotic matter, thus showing that the pain was not seated in the deposit, but was dependant on its mechanical action. In carcinoma, on the contrary, the pain is in the tumour itself, is not caused by distention, nor is it relieved by incisions. Melanosis by its pressure may effect the absorption or ulceration of the surrounding parts, but these do not, as in carcinoma, assume any peculiarity of action. When the skin covering a melanotic tumour gives way, it appears to be by absorption. The edges of the opening thus formed in the skin are neither everted nor thickened, the discharge is without fetor, there is no hemorrhage or sloughing, there are no fungous

protrusions, and the growth of the tumour is owing to the vessels of the surrounding textures continuing their abnormal secretion. In carcinoma, on the contrary, the skin becomes affected with malignant ulceration, and fungous protrusions take place, accompanied by fetid discharge, hemorrhage, and sloughing.

Although melanotic deposits are often met with, in the same manner as tubercles, distributed in various organs in the same individual, I am not aware of any instance of the disease being propagated to the neighbouring glands by absorption, as we see in carcinoma.

In the six cases operated upon, incisions were made into the tumours some time prior to operation, and serous fluid tinged with the black deposit escaped. There was no bleeding, and no subsequent fungous protrusion such as occur in carcinoma. Further, melanosis, in as far as I have had an opportunity of learning, occurs only beyond the middle period of life.

Finally, the result of excision of the eyeball in cases of melanosis and medullary carcinoma, proves the dissimilarity of the two diseases. In all the cases in which the melanotic deposit was within the eyeball, so as to render its entire removal certain, a cure was effected; whereas in only one case of medullary carcinoma did success follow the operation. In unsuccessful cases of medullary carcinoma, large fungous growths, accompanied by severe pain, frequent bleedings, and profuse fetid discharge, followed; whereas in the case of melanosis, in which the success of the operation was doubtful, there was no protrusion, no hemorrhage, and the only local symptom which indicated that the disease might not have been eradicated, was a constant pain in the back part of the orbit, and a sanious discharge. From the hollow condition of the orbit, and contracted state of the eyelids, the surface of the cavity could not be well examined. The patient died from an apoplectic seizure eleven months after the operation. No post mortem examination took place. Even in this case it is doubtful whether the disease remained in the orbit after the operation. It was more likely to do so in this instance than in the others, as the melanotic matter was not limited to the interior of the eyeball, but occupied nearly the whole orbit, and consequently its entire excision could not with certainty be determined.

*Symptoms of Melanosis.*—This disease may commence either within the eyeball or in the orbit exterior to that organ. In neither case are marks of inflammation necessarily present. When it takes its origin within the sclerotic, vision is impaired and ultimately lost. In the early stages I am not aware of any means of diagnosis between this affection and amaurosis. The pupil in both is dilated, and presents the same horny, black colour; and the iris remains stationary under every change of light. But as the melanotic deposit increases in quantity, the iris and lens are pushed forwards towards the cornea, so as to diminish or altogether to obliterate the anterior chamber. At this

period the lens usually becomes opaque, but sometimes remains transparent, and the iris appears to be diminished in thickness, and perhaps altered in colour, and its pupillary margin is generally irregularly oval, the greater diameter being transverse. The patient now complains of an uneasy fulness in the eye, accompanied by occasional attacks of pain and throbbing, and tortuous vessels are seen on the conjunctiva. As the tumour increases in bulk these symptoms become more severe, until interstitial absorption of the sclerotic takes place, allowing of the projection of the mass beyond the natural limits of the eyeball, and thereby relieving this organ from distention. This absorption of the sclerotic usually occurs near the margin of the cornea, and between the tendons of the straight muscles where the sclerotic is thinnest and most readily yields. The projection is generally in the form of irregular nodules, as if constricted in certain points where some fibres of the sclerotic have not yielded to the same extent as others.

At this stage melanosis is very apt to be mistaken for dropsical effusion under the choroid, conjoined with amaurosis. In all the cases of this latter affection which I have seen, the iris was drawn behind the sclerotic in the direction of the protrusion to such an extent in some instances as to be rendered invisible at that side of the eye—whereas I have not seen any such change occur in any case of melanosis. The probable cause of this difference in regard to the iris is, that when the melanotic matter is deposited between the sclerotic and choroid, no traction will be applied to the latter membrane, whereas in dropsy within the choroid, that membrane will be bulged outwards and subjected to traction, and will drag along with it the corresponding portion of the iris; for the adhesion of the iris to the choroid being much stronger than to the ciliary ligament, the latter connexion gives way. This condition of the iris will, I believe, prove a means of judging whether tumours or dropsies are internal or external to the choroid,—in the former the iris retaining its natural position, in the latter being drawn towards the protrusion. So similar are the appearances of melanosis and sub-choroid dropsy, owing to their sameness of colour, that in two instances of the latter disease I saved eyes which had been doomed to excision. Any doubt as to the true nature of the disease may at once be set at rest by puncture. If it be dropsy, a little fluid will escape, and the swelling immediately subside; if melanosis, a drop or two of black matter may ooze out, but with little or no change in the size of the projection.

After the tumour has passed through the unyielding sclerotic by the process of interstitial absorption, it pushes before it the conjunctiva, which, from its texture and loose connexions to subjacent parts, readily yields, and affords it a covering. When it projects much beyond the eyelids, the secretion of the conjunctiva hardens upon its surface, giving it a horny coating of a yellow colour. [See Figs. 1 and 2.]

I have had no opportunity of witnessing the progress of melanosis of the eye beyond this stage; but, judging from what takes place in other parts of the body, and the result of a case related by the late Allan Burns (as an instance of medullary tumour, for at that time the distinction between the two diseases was unknown), in which the disease returned after excision, we may conclude that additional melanotic matter would continue to be deposited, that the vigour of the constitution would give way, and the patient sink in a state of exhaustion.

When the disease commences in the orbit *exterior* to the eyeball, vision is not impaired at so early a period, nor indeed until the tumour has increased to such a bulk as to force the eyeball from its socket, and, by compressing and stretching the optic nerve, has deprived it of its sensibility.

The latter stages will necessarily be alike in both cases.

The following tabular view shows the age and sex of twenty-three patients operated on (the first six were under my care), and the result of the operations :—

*Cases of Melanosis operated on by Dr Robertson.*

Name.	Age.	Result.	Remarks.
1. James Cowan,	50,	Cured.	Died two years after operation from disease of heart—orbit healthy.
2. Jane Murphy,	51,	Cured.	No return of disease six months after operation.
3. *Alex. Nicol,	47,	Cured.	Died three years after operation from melanotic tumour, involving hip-joint, ilium, and sacrum—orbit healthy.
4. *David Wilson,	52,	Cured.	Is at present in good health, two years having elapsed since operation. There is a small melanotic deposit above cornea of other eye, which has now existed for nine years without change.
5. *John Cross,	49,	Doubtful.	Died, with symptoms of apoplexy, ten months after operation; discharge of fetid sanies from orbit for two months prior to death, but without any melanotic tinge, and no tumour.
6. Mrs Kerr,	55,	Cured.	Died two years after operation—orbit healthy—no melanotic deposit in any part of body. Liver enormously enlarged and of soft texture.

\* These three patients were from the same neighbourhood, the coast of Fife. David Wilson was operated on by my colleague Dr Duncan, during my absence from hospital duty.

*Cases from other Authorities.*

Authors.	Age.	Sex.	Result.	Remarks.
7. Allan Burns, Anatomy of Head and Neck.	41	female	died	Melanotic deposit (soft substance of an ink-colour) in antrum maxillare, orbit, liver, and above kidneys.
8. Fawdington.....	30	male	died	Melanosis of cellular tissue of thorax and abdomen, liver, spleen, pancreas, kidneys, peritoneum, pleuræ, lungs, and head.
9. Liston, 6th vol. Lond. Med. Gaz.	52	male	cured	
10. Mackenzie, Diseases of Eye.	40	male	cured	
11. Lawrence .....	30	male	cured	
12. Carsewell & Cullen, Ed. Med. Chir. Trans.	51	male	died	Melanosis in cellular tissue, pleuræ, on diaphragm, in lungs, pericardium, heart, liver, spleen, kidneys, omentum, peritoneum, internal table of skull.
13. Wardrop on Fun- gus Hæmat. p. 81.	58	female	cured	
14. Dr Rosas, Vienna Hospital.	50	female	cured	
15. Do.....	78	female	cured	
16. Dr Holscher, Ha- nover, Oph. Obs.	64	male	cured	Died of exhaustion a year after operation.
17. Dr A. Reuss, Prague, de Mel. Ocul.	48	female	cured	
18. Zimmerman, Berlin.	55	male	cured	
19. Dr Autenberger, Vienna, Oph- thalmic Hospi- tal.			cured	From numerical statement of cases treated in the Vienna Ophthalmic Hospital, age and sex not given.
20. Do.....			cured	
21. Do.....			cured	
22. Do.....			cured	
23. E. L. Birkett, Guy's Hospital Rep. Oct. 1844.		male	cured	

The above tables clearly show the difference which exists between melanosis and medullary carcinoma. In the vast majority of cases of medullary carcinoma within the orbit, the disease occurs in childhood; whereas there is not a single instance of melanosis under thirty years of age. It is doubtful if there be one well-authenticated case on record of medullary



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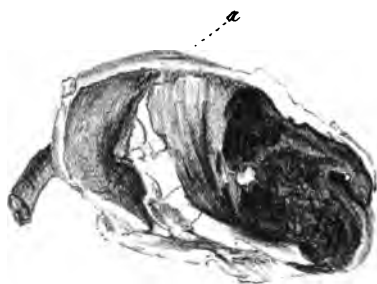


*Dr. Shao Foo*





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*Dr. Shaefer*



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*Dr. Sharkey*

carcinoma within the eye cured by operation, whereas, of twenty-two patients affected with melanosis, no less than eighteen recovered after excision of the contents of the orbit, and in one it was doubtful whether or not there was any return of the disease. In the three patients who died, the melanotic matter was deposited in many different organs, chiefly in those of the thorax and abdomen. The conclusion appears to be inevitable, that melanosis cannot be classed as a species of carcinoma, or even as a malignant disease, in the usual acceptation of the term.

#### EXPLANATION OF FIGURES.

Fig. 1. Drawing taken from the eye of James Cowan, *æt.* fifty, prior to operation. The melanotic tumour had penetrated the sclerotic coat near the margin of the cornea, and projected to the extent of about an inch, still covered by the conjunctiva. The secretion of the conjunctiva is hardened upon its surface (in consequence of the eyelids no longer covering the tumour), and gives to it the peculiar yellowish brown colour and horny hardness.

Fig. 2. Exhibits a section of fig. 1 after excision. The melanotic mass is situated between the sclerotic and choroid, and has pushed the retina, choroid, and lens towards the centre and anterior part of the globe. The melanotic cells, under the microscope, present a spherical shape, and are full of young. Many are of a tawny colour, others quite black. The microscopic appearances in the other cases were similar to the present.

Fig. 3. Section of eye of Mrs Kerr, *æt.* fifty-five, after excision. The melanotic matter is deposited in a mass between choroid and sclerotic. The internal structure is the same as that represented in fig. 2.

Fig. 4. Section of eye of John Cross, *æt.* forty-nine. From the history of this case it would appear that the tumour commenced within the eyeball, and gradually made its way through the coats of that organ; but instead of projecting forwards, as in fig. 1, the melanotic matter was deposited in the cellular substance of the orbit, so that it is seen divided by septa of that tissue into masses of variable size. The eye itself is completely filled with the black deposit, and the only part of that organ which can be traced is the sclerotic coat considerably shrunk. Before excision the tumour projected considerably beyond the orbit, and was of a nearly uniform brownish black colour, and still covered by the conjunctiva.

This patient died of apoplexy nineteen months after the operation. It is possible that the deposit of melanotic matter may have continued after the operation, and made an entrance within the calvarium, and thus have given rise indirectly to the sudden apoplectic attack, and therefore the result of this case is noted as doubtful. But this was by no means a probable occurrence, seeing that there was no obstacle to the deposit continuing to take place in its former seat after the removal of the contents of the orbit. It is much more likely that the apoplexy was produced by altogether different causes, or if by a melanotic deposit within the calvarium, that such was unconnected with the tumour in the orbit which was removed. Unfortunately no examination of the body after death was allowed.

Figs. 5 and 6. Drawing and section of eye removed from David Wilson, *æt.* fifty-two. In this case the humours of the eye have been pushed forwards, and have been converted into a mass of gritty earthy matter enclosed in a

firm fibrous capsule, occupying the place of the iris and anterior chamber. The melanotic matter is deposited in the posterior part of the eyeball, and in the cellular texture external to the sclerotic, and in that of the eyelid, the whole communicating through an opening in the sclerotic. In regard to this patient, Dr Cunningham of Kirkcaldy writes to me (12th Oct. 1844), "I visited David Wilson to-day, and found him in the enjoyment of excellent health; he has been engaged since January 1843 at his old employment, that of weaving, and says, he can do a good day's work yet. There is not the slightest appearance of any return of the disease in the left orbit, and in the right, where you may remember there were also appearances of melanosis, the disease appears to me to remain stationary. He has no pain, and has never lost a night's sleep since the healing of the sore caused by the operation."

This case is highly important in a practical point of view. We have melanotic matter deposited in both orbits. In the left it makes rapid progress, causing loss of sight, destruction of the eyeball, and much suffering accompanied by great constitutional disturbance and debility. In the right eye the disease remains stationary. Notwithstanding the existence of the disease in both orbits, we deemed it prudent to excise the contents of the left orbit, and the result has proved that our judgment of the case was correct, seeing that there has been no return of disease in the orbit operated upon, and that the melanotic deposit still remains perfectly quiescent in the right eye, now nearly nine years since its commencement, and that the patient has been restored to perfect health, and is "able to do a good day's work yet at his trade of weaving."

58, QUEEN STREET, EDINBURGH,  
15th October 1844.

(To be continued.)

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*Statistical Report on the Edinburgh Epidemic Fever of 1843-44.*

By A. HALLIDAY DOUGLAS, M.D., Fellow of the Royal College of Physicians, and one of the Physicians to the Royal Infirmary, Edinburgh.

SOME apology seems necessary for this essay appearing, as it does, so long after the cessation of the epidemic which it proposes to investigate, and after so much has been already written on the subject. I have been anxious, however, to bring it forward, even at this late date, as the relative value of the symptoms and the essential characters of the disease are, in my opinion, to be best demonstrated by numerical analysis—the plan on which the present report has been framed—and I am not aware that it has been adopted by any one of the many writers on the fever who have preceded me.

The cases upon which the following calculations have been founded amount to 220 in number. It is from a careful analysis of the reports of these 220 cases that the deductions to be

recorded have been derived. To the phenomena presented by these I propose strictly to confine my observations.

Before proceeding to the detail of the cases, I may state, that the investigation has been conducted strictly according to the "Numerical System," except in one or two instances, where, from the universality of the symptom or morbid condition, I have been satisfied with the mere statement of the circumstance. The results of the analysis are arranged in two principal divisions; the first showing the influence of the general circumstances of the individual upon the disease—the second demonstrating the features of the disease itself. This second division is again subdivided, and the characters are considered under two heads: 1st, Those constituting the general features of the malady; 2d, Those constituting the special symptoms, or derangement in the functions of the several systems. In the concluding part, the complications, the sequelæ, the effect of treatment, &c., will be considered.

#### DETAIL OF THE CASES.

##### I.—THE CIRCUMSTANCES OF INDIVIDUAL PATIENTS INFLUENCING THE ATTACK AND PROGRESS OF THE DISEASE.

Under this section are considered—1st, *The Sex and Age of the Patients*; 2d, *Their Circumstances in Life*; 3d, *Habits*; 4th, *Previous Health*; 5th, *Previous Attacks of Fever*; 6th, *The Source of the Disease*; 7th, *The Stage of it when the first Reports of the Case were taken*.

1st, *Age and Sex*.—In 215 cases the age of the patient was noted. In these 215 cases there were under ten years of age 14 males and 4 females; above 10 and under 20, 36 males and 23 females; above 20 and under 30, 32 males and 26 females; above 30 and under 40, 11 males and 21 females; above 40 and under 50, 12 males and 8 females; above 50 and under 60, 9 males and 10 females; above 60 and under 70, 7 males and 1 female; above 70, 1 male. This return gives a proportion of 122 males to 93 females. According to these data, the periods of life at which the disease most frequently occurs is from 10 to 20, and from 20 to 30, and at these two periods with nearly equal frequency. It is, however, impossible to infer the precise influence of age in predisposing to the disease from such materials as we are here making use of. An hospital report cannot enable us to determine this question, as large numbers of patients in the early periods of life are never admitted into our hospitals.

2d, *Circumstances in Life*.—Of 186 patients, 83 reported themselves in good circumstances; 80 in indifferent circumstances—that is, their employment was precarious, earning from three to five shillings a-week, many of them with large families, and living in over-crowded rooms. Of these 80 cases, 37 were males, 43 were females; 23 reported themselves perfectly des-

titute, 13 men and 10 women. With regard to the terms "indifferent" and "destitute," I may explain, that though the former presented a less degree of wretchedness than the latter, yet assuredly they were to be classed together as being equally, so far as their circumstances in life were concerned, predisposed to the effects of contagion. Accordingly, from this return it appears, that of 186 persons in fever, 103 were in a state of poverty amounting to destitution, while 30, or 1-6th of the whole number, were in a state of utter wretchedness.\* Of these 103 destitute cases, 53 were women; 30 of whom were married.

*3d, Habits.*—The habits of the patients, as regards temperance, were reported intemperate in 18, and drunken in 9,—27 cases in all, of which 5 died. These facts are in the mean time merely stated; the influence of irregular habits on the progress and result of the disease will be noticed more in detail hereafter.

*4th, Previous Health.*—The health of the patients appears to have been impaired for a longer or shorter period in about 34 of the cases. The disorder of the health was in many of these cases trivial, and of only a few days' standing—consisting in an attack of cynanche or catarrh. In about 12 cases the disordered health was chronic, and the majority of these suffered from bronchitis, which became troublesome during the progress of the attack, with cough and expectoration. Of the 34 cases, 2 proved fatal, the one being affected with chronic disease of the liver; the other was, after death, reported to have been long subject to attacks of violent diarrhoea, a recurrence of which was the immediate cause of the fatal event.

*5th, Former attacks of Fever.*—Of the 220 cases, 71 were stated to have suffered from former attacks of fever, exclusive of 4 who were affected with both the epidemic relapsing fever and typhus during their stay in the hospital. Hence, rather more than a third of the cases were suffering from fever for the second time. These former attacks of fever had occurred within five years in 30 cases, of which 12 were within two years and 6 within one year.†

*6th, Source.*—Among 213 cases in which this question was carefully investigated, 45 were unable to ascribe their attack to any cause; 18 attributed their illness to exposure, fatigue, &c.; and 150 were satisfactorily proved to have been exposed to sources of contagion.

*7th, Stage when first reported.*—This is stated in our returns

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\* These facts corroborate, on extended data, the statement of Dr Alison, made on my authority, at p. 8 of his pamphlet.

† Of 25 cases of typhus which came under my charge, during the same period as the above cases, 5 reported former attacks of fever, that is, a *fifth* of the whole number,—one only of these was satisfactorily made out to have occurred within two years.

to be as follows. Of 207 cases, 121 were admitted during the primary attacks, 56 during the remission, 30 in the relapse.—In some of these last cases admission was so late as the crisis of the relapse.

## II.—THE FEATURES OF THE DISEASE.

*1st, The General Features.*—Under this section we shall consider—*1st, The Mode of Access of the Disease*; *2d, The First Crisis*; *3d, The Remission*; *4th, The Relapse*; *5th, The Second Crisis*; *6th, Repeated Relapse.*

*1st, The Access of the Disease.*—This appeared to have been in almost every case sudden, generally with a rigor, followed quickly by those symptoms which usher in the attack of febrile diseases. My opportunities of observing this early stage of the attack were very limited, but, in the cases which I did see, vomiting occurred within a few hours of the attack in most instances; and sweating also was frequent. The suddenness of the invasion did not prevent many persons going about for several days,—this was particularly remarkable in one of my patients, who continued moving about with a pulse of 120 in the minute. In a very large proportion, however, of the cases, the febrile symptoms attained their greatest intensity within the first three days. With reference to the suddenness of the attack, there were 5 of the cases which appeared to justify the opinion that, however frequent the sudden access of the symptoms may be, it is not invariable, and that a premonitory stage of some duration occasionally exists. These cases were not under observation at the period alluded to; therefore what is now stated must be received on the authority of the patients themselves.

These 5 cases were 3 males and 2 females. For a period, varying from 3 to 10 days, they suffered from general debility and uneasiness, pain of the back or general pains, and anorexia. This stage was succeeded by a rigor, and the symptoms which usually usher in the attack. Dating from the rigor, the first crisis occurred on the fourth, sixth, and ninth days in three, and on the seventh in two. The relapse occurred on the twelfth, fifteenth, and twenty-second days in three, and on the thirteenth day in two. One of the females miscarried in the primary attack; the other had a second relapse. It is probable that, in many other cases this premonitory stage may have existed without being noted in the reports.

*2d, The First Crisis.*—This crisis is considered under the following divisions:—*1st, Its Date*; *2d, Its Phenomena*; *3d, Its Date in relation to Sex*; *4th, Its Date in relation to Age.*

*The Date of the First Crisis.*—Of the cases (121) admitted in the primary attack, the date of the first crisis is reported in 83. It must not be supposed that the remaining 38 cases did not present the usual well-marked crisis, though a small number, not



exceeding 6, appear to have recovered by a gradual and not the abrupt crisis. In many instances the impossibility of ascertaining precisely the day of attack rendered it impossible to determine the date of the crisis.

Of these 83 cases, the crisis occurred on the fourth day in 2, on the fifth day in 12, on the sixth day in 25, on the seventh day in 27, on the eighth day in 9, on the ninth day in 4, on the tenth day in 4. Hence the average date of this crisis was at the sixth day.

*The Phenomena of the First Crisis.*—The crisis occurred at all periods of the day. In most instances it was preceded by a rigor, frequently, however, by a mere chilliness which did not amount to shivering. It was in every instance, with the exceptions to be presently mentioned, accompanied by a sweat more or less profuse, which lasted generally for a few hours, in a few cases for two and even three days. During the continuance of the sweat, the pulse in many instances rose in frequency; but this was by no means invariable.

The exceptions above alluded to were two in number,—1st, A young man who, at the forenoon visit, was found convalescent, and was stated not to have sweated, but to have been much disturbed during the night by frequent calls to pass urine. The urine was not preserved, but on the second day after the crisis it amounted to 30 oz., of density 1020. His attack presented no remarkable symptom, he had slight bronchitis, jaundice, and pain and tenderness in the region of the spleen.—2d, The case of a young robust man, who, on the day after his relapse, was attacked by frequent diarrhoea, without pain. On the second day the report states “the improvement to be going on, no sweating, much annoyance from pains of the limbs.” The evidence of these two cases is quite insufficient to prove that any other discharge than sweating ever proved critical. In the section on the complications, a detailed account will be given of cases in which diarrhoea accompanied a crisis. The crisis was, in many cases, attended by a degree of mental languor and general lassitude—amounting in some instances to prostration, which continued for several days, and only gradually disappeared.

*The Date of the First Crisis in relation to Sex.*—Of these 83 cases, in which the date of the first crisis has been ascertained, 51 were males and 32 were females.

1st, On the fourth day this crisis occurred in two instances, both male. This gives a rate per cent. of nearly 4 as the frequency with which the first crisis occurred in males on this day.

2d, On the fifth day this crisis occurred in 12 cases. Of these, 9 were males and 3 females. This gives, as the frequency with which this crisis occurred amongst males on the fifth day, 17·64 per cent.; amongst females 9 per cent.

3d, On the sixth day this crisis occurred in 25 cases. Of these 12 were males and 13 females. This gives, as the frequency with which this crisis occurred on the sixth day, amongst males, 23·27 per cent.; amongst females, 40·2 per cent.

4th, On the seventh day this crisis occurred in 27 cases; 18 of these were males, 9 females. This gives, as the frequency with which this crisis occurred on this day, amongst males 35 per cent.; and females 28 per cent.

5th, On the eighth day this crisis occurred in 9 instances; of these, 3 were males and 6 females. Nearly 6 per cent. for males, and 18 per cent. for females, is therefore the frequency with which this crisis occurred on this day.

6th, On the ninth day the crisis occurred in 4 cases; of these 3 were males and 1 female.

7th, On the tenth day this crisis occurred in 4 instances; all of which were males. This gives as the average frequency on this day, amongst men, 7·8 per cent.

The average date of this crisis in the total of these cases is, amongst the males, nearly the seventh day; and amongst the females, the sixth.

From these returns, it is apparent that the days (6th and 7th) on which this crisis occurs most frequently were observed in a larger proportion amongst the female cases than amongst the male—the proportion amongst the former being 68 per cent., and the latter 58 per cent.

*The Date of the First Crisis in the different Periods of Life.*

—1st, There were under 10 years of age 4 cases. Of these one had this crisis on the fourth day; 3 had it on the sixth day. This number is too limited to enable us to strike what may be depended upon as a just average of the date of this crisis, corresponding to this period of life. According, however, to the data, the average date is the fifth day.

2d, There were above 10 and under 20, 29 cases. In these the crisis occurred in one on the fourth day; in 5 on the fifth day; in 13 on the sixth day; in 7 on the seventh day; in 2 on the eighth day; and in one on the tenth day. The average of the dates in these 29 cases is the sixth day.

3d, There were above 20 and under 30, 27 cases. In these the crisis occurred in one on the fourth day; in 5 on the fifth day; in 6 on the sixth day; in 10 on the seventh day; in 2 on the eighth day; in 2 on the ninth day; and in one on the tenth day. The average of the dates in these 27 cases is the sixth day.

4th, There were above 30 and under 40, 8 cases. In these the crisis occurred in 2 on the sixth day; in 3 on the seventh day; in 1 on the eighth day; and in 2 on the tenth day. The average of the dates in these 8 cases is the seventh day.

5th, There were above 40 and under 50, 8 cases. In these the crisis occurred in 4 on the seventh day; in 2 on the eighth day; and in 2 on the ninth day. The average of the dates in these 8 cases is the seventh day.

6th, There were above 50 and under 60, 5 cases. In these the crisis occurred in one on the fifth day; in one on the sixth day; in 2 on the seventh day; and in one on the eighth day. The average of the dates in these 5 cases is the sixth day.

There was one case above 60, in which the crisis occurred on the eighth day. In one case the age is not reported.

These results, with the exception of the second and the third, are deduced from too limited data to admit of any positive general inference on the influence of age on the date of the first crisis. It would appear from them, however, that the crisis occurs rather earlier in the young than in those more advanced in life. There is, on the average, a difference between the second and third decennial periods of life of 4-10ths of a day,—the latter being the later. The fourth period gives as its average date of crisis one day later than the third, and one-tenth of a day earlier than the fifth. In the cases belonging to the sixth decennial period of life, the date of the crisis is on the average one day earlier than in those of the fourth and fifth periods; but as the data consist only of five cases, it is probable that this average for the sixth period is not a just one.

I may state that, in the course of these remarks, it frequently happens, that the data on which averages are founded are too limited to justify decided inferences; I have, however, thought it right to state these averages on almost every occasion.

3d, *The Intermission.*—The term Intermission appears to me much more expressive of the state of the disease during the period between the first crisis and the relapse, than that which has been generally adopted,—Remission. The latter term expresses mere abatement of the symptoms; whereas, during this stage, the febrile state entirely disappears, and a progressive convalescence occurs, “during which,” as stated by Dr Cormack, “a great deal of lost strength is regained.” This complete intermission was not, however, invariable, though the exceptions were few in number. In about 10 cases the tongue continued more or less dry, and in some it was moist, but foul; in two of these latter cases I was enabled to predict the return of febrile symptoms during a prolonged intermission from the persistent grey fur which the tongue presented. In one case, during this stage, the pulse continued to range from 80 to 108 in the minute, in another from 60 to 96, and in several it continued as high as 80 throughout. Headache, vertigo, heat of the surface, sweating, anorexia, restlessness, and lassitude, were severally, in a very few instances, observed. The association of these symptoms with one another presented no regularity, and the

cases were not remarkable for severity. It will be borne in mind that the whole number of these cases, with imperfect intermission, did not exceed 15 in number.

*The Duration of the Intermission.*—This was various; in some cases as short as three days, most frequently it lasted for five or seven days, but in some instances for a much longer period. The average duration was 7·15 days, calculated from 59 cases; in 10 of which the first crisis occurred on the fifth day; in 23 on the seventh day; and in 16 on the eighth, ninth, and tenth days.

*The Relation of the Duration of the Intermission to the date of the First Crisis.*—Dr O'Brien, in describing a fever which closely resembled that we are at present investigating, states that the "remission appeared to be longer in the seven-day fevers than in the five-day cases." The following averages, ascertained from 53 of our cases, express the result of three calculations on this question:—

1st, In 10 cases, in which the crisis occurred on the fifth day, 6·6 days is the average duration of the intermission.

2d, In 23 cases, in which the crisis occurred on the seventh day, 7·65 days is its average duration.

3d, In 16 cases, in which the crisis occurred 8 times on the eighth day, 4 times on the ninth day, and 4 times on the tenth day, 7·12 days is the average duration of this stage.

Some authors are of opinion, that they have observed a remission in the symptoms on the third day of the disease. In the few cases admitted at this early stage, I have been quite unable to discover any thing of the kind; and I believe, if such a remission ever occurs, that it does so with no regularity, and that it forms no part of the general features of the disease.

4th, *The Relapse.*—This term has been objected to. Now, though there is something indefinite in the signification of the word, I do not think that one more suitable could easily have been adopted. The confusion is altogether owing to our overlooking the state under which the relapse takes place, and to the fact of many physicians speaking and writing of a "relapse in fevers," when a mere accidental febricula has occurred, and by no means "the relapse of the fever, properly speaking, or repetition of it within a short period." The relapse is considered under the following subdivisions:—1st, *Its Frequency*; 2d, *Its Date*; 3d, *Its Date in relation to Sex*; 4th, *Its Date in relation to Age*; 5th, *Its Date in relation to the Date of the First Crisis*; 6th, *Its Phenomena*.

*The Frequency of the Relapse.*—There exists a difference of opinion as to whether the relapse occurs in every case or not. From all I have been able to observe of the disease, I am disposed to believe that no case escaped without relapsing; though the severity of the accompanying symptoms and its date are very various. In this report, it is impossible to calculate this

question, as many of our cases were dismissed before the usual date of the relapse. The only cases countenancing the idea that the disease may pass off without relapsing were 2, which, up to the twenty-first and twenty-fourth days respectively, presented no relapse. According to our return on the date of the relapse, it appears that 1 case in every 24 relapsed even later than the twenty-first day, and that 1 in 28 relapsed on or after the twenty-sixth day. It is quite possible then that both these cases might relapse after dismissal.

*The Date of the Relapse.*—This is indicated in 140 cases. It occurred on the ninth day in 1 case; on the tenth day in 4 cases; on the eleventh day in 5 cases; on the twelfth day in 7 cases; on the thirteenth day in 21 cases; on the fourteenth day in 39 cases; on the fifteenth day in 21 cases; on the sixteenth day in 15 cases; on the seventeenth day in 9 cases; on the eighteenth day in 4 cases; on the nineteenth day in 5 cases; on the twentieth day in 1 case; on the twenty-first day in 1 case; on the twenty-second day in 2 cases; on the twenty-sixth day in 1 case; on the twenty-seventh day in 1 case; on the twenty-eighth day in 2 cases; on the forty-eighth day in 1 case. The average of these dates is the fifteenth day. A point worthy of remark in the preceding return is the progressive increase in the frequency of the relapse from the earliest day (the ninth), on which it occurred, to the fourteenth day, on which it happened most frequently; and from this day, the progressive decline to the eighteenth; after which there is some irregularity in the frequency of its occurrence on each day. Relapse occurred previous to the thirteenth day in 17 cases; on the thirteenth, fourteenth, and fifteenth days in 81; and subsequent to the fifteenth day in 42.

*The Date of the Relapse, in relation to the Sex.*—These (140) cases, in which the date of the relapse has been ascertained, were males 80, and females 60.

1. It has been shown above, that the relapse occurred, in 17 of these cases, previous to the thirteenth day; of these there were 9 males, and 8 females. This gives as the per centage of relapses at this early date of the attack, 11·25 of the male cases; and 13·22 of the female cases.

2. On the thirteenth day the relapse occurred in 21 of these (140) cases; 10 were males, and 11 females. The number per cent. of relapses on this date, therefore, is 12·5 of male cases, 19 of female cases.

3. On the fourteenth day the relapse occurred in 39 of these cases; 17 were males, and 22 females. The number per cent. of relapses on this date, therefore, is 21·25 of male cases, 36 of female cases.

4. On the fifteenth day the relapse occurred in 21 instances; 14 were males, and 7 females. The number per cent. of re-

lapses on this date, therefore, is 17·5 for males, 11·6 for females.

5. Subsequent to the fifteenth day the relapse occurred in 42 instances; of these 30 were males, 12 were females, which is equivalent to 37·5 per cent. of male cases, and 20 per cent. of female cases. The inference from this calculation is threefold.

1st, That females relapse, mostly, at an earlier date than males. 2d, That males relapse, at a late date, nearly twice as often as females. 3d, That the most usual date of the relapse, the thirteenth, fourteenth, and fifteenth days, is much more frequently observed in females than in males—the proportion being, of males 51·25 per cent., of females 66·6 per cent.

*The Date of the Relapse at the different Periods of Life.*—

1. Under 10 years old there were 8 cases; namely, on the eleventh day, 1 case; on the thirteenth day, 1; on the fourteenth day, 4; on the fifteenth day, 1; on the sixteenth day, 1. The average of these dates is the thirteenth day.

2. Above 10 and under 20, there were 44 cases; namely, on the ninth day, 1 case; on the tenth day, 2; on the eleventh day, 3; on the twelfth day, 4; on the thirteenth day, 8; on the fourteenth day, 10; on the fifteenth day, 8; on the sixteenth day, 4; on the seventeenth day, 4; on the twentieth day, 1; on the twenty-first day, 1. The average of these dates is the fourteenth day.

3. Above 20 and under 30, there were 40 cases; namely, on the eleventh day, 1 case; on the twelfth day, 5; on the thirteenth day, 6; on the fourteenth day, 10; on the fifteenth day, 5; on the sixteenth day, 5; on the seventeenth day, 2; on the eighteenth day, 1; on the nineteenth day, 2; on the twenty-second day, 1; on the forty-eighth day, 1. The average of these dates is the fifteenth day.

4. Above 30 and under 40, there were 21 cases; namely, on the thirteenth day, 3 cases; on the fourteenth day, 10; on the fifteenth day, 4; on the sixteenth day, 1; on the eighteenth day, 1; on the nineteenth day 1; on the twenty-seventh day, 1. The average of these dates is the fifteenth day.

5. Above 40 and under 50, there were 14 cases; namely, on the tenth day, 1 case; on the thirteenth day, 3; on the fifteenth day, 2; on the sixteenth day, 2; on the seventeenth day, 1; on the eighteenth day, 1; on the twenty-sixth day, 1. The average of these dates is the twelfth day.

6. Above 50 and under 60, there were 9 cases; namely, on the fourteenth day, 2 cases; on the fifteenth day, 1; on the sixteenth day, 1; on the eighteenth day, 1; on the nineteenth day, 2; on the twenty-second day, 1; on the twenty-eighth day, 1. The average of these dates is the eighteenth day.

7. Above 60 and under 70, there was 1 case, which relapsed on the seventeenth day. From these averages, there appears to

be a very marked difference in the date of the relapse in the early and in the late periods of life. Between the ages of 20 and 40, on the other hand, the same average date of relapse exists; and that, as near as may be, is equidistant from the date in the early and that in the later periods of life.

*The Date of the Relapse in relation to that of the First Crisis.*

—This calculation is the same as that already stated at p. 15, showing the duration of the intermission. I shall merely state the averages and a few of the special dates.

1. 10 cases, presenting the first crisis on the fifth day, give as the average date of the relapse the twelfth;—2 of these cases relapsed after the fourteenth day.

2. 23 cases, presenting the first crisis on the seventh day, give as the average date of the relapse the fourteenth day; 3 only of these cases relapsed later than the fourteenth day.

3. 16 cases, having had the first crisis, 8 on the eighth, 4 on the ninth, and 4 on the tenth day, give as the average date of the relapse the fifteenth day. 5 of the cases which had the first crisis on the eighth day relapsed on the fourteenth day. 2 of the cases having the first crisis on the ninth day relapsed,—1 on the twelfth day, and 1 on the twenty-second day. The cases having the first crisis on the tenth day relapsed on the fifteenth day in 1 instance; on the sixteenth in 2; and on the nineteenth in 1. It appears, then, from these data, that the observation is well founded that the relapse is apt to occur at an earlier date in cases with the earlier crisis. Increased duration of the primary attack, however, though it may delay, does not appear ever to prevent the relapse.

*The Phenomena of the Relapse.*—In a few instances the relapse came on with the gradual accession of the febrile state. In by far the greatest proportion of the cases, as has been already stated of the primary attack, which the relapse closely resembled in all its features, its access was sudden; it was very generally ushered in by a rigor, which was quickly followed by the train of symptoms common to febrile diseases, and which will be particularly investigated hereafter. The symptoms were, on the whole, decidedly less urgent in the relapse than in the primary attack, and the duration much shorter. This will be investigated in the next section on the crisis of the relapse.

*5th, The Second Crisis, or Crisis of the First Relapse.*—This I propose to investigate under the three following heads—1st, *Its Date*; 2d, *Its Date in relation to Sex*; 3d, *Its Date in relation to Age*.

*The Date of the Second Crisis.*—This must be investigated in a twofold point of view: 1st, To show the duration of the first relapse; 2d, To show at what date of the attack this crisis occurs, or, what relation the date of this crisis bears to the date of the relapse. These two points will be best and most shortly demonstrated in the following table:—

*Table, showing the Relation of the Duration of the Relapse to the Date of its Accession.*

	Second Crisis occurred on day after relapse							Total Cases relapsing on particular days after attack.
	1st	2d	3d	4th	5th	6th	7th	
Relapse occurred on 9th day after attack								1
... 10th ...		1	1	1				3
... 11th ...		2		1				3
... 12th ...				1	3		1	5
... 13th ...		2	3	5	6	2	1	19
... 14th ...		3	10	8	8			29
... 15th ...		3	3	6	1	1		14
... 16th ...	1	2	2	3	3	1		12
... 17th ...		2	2	2				6
... 18th ...		1		2				3
... 19th ...		1	1	2				4
... 20th ...					1			1
... 21st ...	1							1
... 26th ...		1						1
... 27th ...	1							1
... 28th ...			1		1			2
Total	3	18	23	32	23	4	2	105

In addition to the 105 cases from which the preceding table has been constructed, there are, of the 140 in which the relapse is reported, 7 cases in which this crisis occurred—on the third day of the relapse, 2; on the fourth day, 2; on the fifth day, 2; on the eighth or ninth day, 1. These cases cannot be entered in the table, in consequence of my being unable to determine the precise day of the attack on which the relapse occurred. The duration of this relapse, or the date of its crisis in relation to that of its accession, is shown in 112 cases; the average date of the crisis on the whole of these cases is the third day, reckoned from the day of relapse. In 105 of these 112 cases, the day of the attack on which the second crisis occurred can be easily reckoned from the preceding table. I shall not therefore state this calculation, but proceed at once to the second head,

*The Date of the Second Crisis in relation to Sex.*—It must be distinctly understood that the term *date* throughout this section is applied to the *day of the second crisis* reckoned from the *day of the relapse*.

Of the 112 cases in which the date of this crisis is ascertained, there are 67 males, 45 females.

1. The 3 cases which presented the second crisis on the first day of the relapse are all males. This gives, as the frequency of this second crisis on the first day, 4·3 per cent. for males.

2. Of the 18 cases which presented the second crisis on the second day, 13 are males, 5 females. This gives as the frequency on this day, 19·4 per cent. for males, 11 for females.

3. Of the 25 cases which presented this crisis on the third day, 19 are males, 6 females. This gives as the frequency of this crisis on this day, 28·3 per cent. for males, 13·2 for females.

4. Of the 34 cases which presented this crisis on the fourth



day, 19 were males, 15 females. This gives a frequency on this day of 28·3 per cent. for males, 33 for females.

5. Of the 25 cases which presented this crisis on the fifth day, 11 were males, 14 females. This gives, as the frequency on this day, 16·4 per cent. for males, 31 for females.

6. Of the 4 cases presenting this crisis on the sixth day, 1 was male, 3 were females. This gives, as the frequency on this day, 1·49 per cent. for males, 6 per cent. for females.

7. On the seventh day, 2 cases had their crisis; both females.

8. On the eighth (or ninth) day one male case presented this crisis.

From these returns it is apparent that the average of the dates of this crisis in male cases was the third day, in females the fourth. Male cases presented the crisis on one of the early days—that is, previous to the fourth day, in a much larger proportion than females; the rate per cent. for males at these earlier dates being 52, for females 24. On and after the fourth day, on the other hand, there is a preponderance on every day, except the eighth, of females; the rate per cent. for these later dates being for males 47, for females 75.

*The Date of the Second Crisis at the different Periods of Life.*—1. There were of these 112 cases, 8 under 10 years of age. In these, the second crisis occurred in 2 on the second day; in 2 on the third day; in 3 on the fourth day; and in 1 on the sixth day. The average on these 8 cases is the third day.

2. There were above 10 and under 20, 38 cases. In these, this crisis occurred in 1 on the first day; in 9 on the second day; in 10 on the third day; in 8 on the fourth day; in 7 on the fifth day; in 2 on the sixth day; and in 1 on the ninth day. The average date for this period of life on these 38 cases is the fourth day.

3. There were above 20 and under 30, 33 cases. In these, this crisis occurred in 1 on the first day; in 4 on the second day; in 9 on the third day; in 11 on the fourth day; in 7 on the fifth day; in 1 on the seventh day. The average date for this period of life on the 33 cases is the third day.

4. There were above 30 and under 40, 16 cases. In these, this crisis occurred in 1 on the first day; in 1 on the third day; in 4 on the fourth day; in 9 on the fifth day; and in 1 on the seventh day. The average for this period of life on these 16 cases is the fourth day.

5. There were above 40 and under 50, 11 cases. In these, this crisis occurred in 3 on the second day; in 1 on the third day; in 5 on the fourth day; in 2 on the fifth day. The average for this period of life on these 11 cases is the fifth day.

6. There were above 50 and under 60, 5 cases. In these, this crisis occurred in 2 on the third day; in two on the fourth

day; and in 1 on the sixth day. The average for this period of life in these 5 cases is the fourth day.

7. There was above 60, 1 case in which this crisis occurred on the fourth day.

In consequence of the smallness of the number in the majority of these returns, it does not seem advisable to institute any comparison between the different periods of life, with reference to any influence which age may exercise on this crisis.

*Repeated Relapse.*—Relapse has been observed to occur as often as four and, I believe, five times. In none of my cases was it observed oftener than the second time, and this occurred in 11 cases. The sex of these was male in 4 cases, female in 7. The age was under 30 in 7; above 30 and under 60 in 4.

*The Date of the Second Relapse.*—This was on the eighteenth day in 2 cases; between the twenty-second and thirtieth days in 6; on the thirty-fourth and thirty-sixth days in 3. These dates do not appear to differ in the sexes.

*The Duration of the Second Relapse.* In 10 of these cases the duration of this relapse varied from one to five days. It was limited to one day in 3 cases; to thirty hours in 3; to two days in 1; to three days in 1; to five days in 2. The remaining case—a female aged 38 of irregular habits—which relapsed for the 2d time on the twenty-ninth day, continued for ten days, with varying degrees of heat of the skin, dryness of the tongue, rapidity of the pulse, sleeplessness, and occasional general pains, without a distinct crisis, but a gradual decline of the symptoms, which were severe only during the first days of the relapse. No uniform and consistent relation between the direction of this second relapse and the date of its occurrence can be traced.

*The Crisis of the Second Relapse.*—In this second relapse, as in the primary attack and first relapse, the crisis was for the most part abrupt and by perspiration. In three instances this form of crisis was not observed, the symptoms slowly and gradually declining.

*The Phenomena of the Second Relapse.*—No symptom of importance occurred in the course of any of these 11 second relapses. Had it not been that the mode of access and crisis was, for the most part, precisely as in the previous attacks, and that it was observed to occur more frequently than accidental feverish attacks are met with in the convalescence from the fevers we are in the habit of seeing, this second relapse might, in many cases, have been overlooked as a mere febricula.

The data afforded by these 11 cases are quite insufficient for calculating with precision whether there existed any determinate relation between the second relapse and the date of the first crisis, the date of the first relapse, or its duration. I may state, however, that in 3 of these 11 cases the date of the first crisis is reported to have been as late as the eighth day in 2, and the

ninth day in 1. In 7 the relapse is ascertained to have occurred on or before the fourteenth day; and in five of these seven cases the duration of the first relapse was 3 or 4 days.

This concludes the first subdivision of the second principal division of this analysis—on the general features of the disease. The second subdivision—on the special symptoms of the disease—next claims attention, and will be entered upon in the continuation of this report.

(*To be continued.*)

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*Case of Imperforate Hymen.* By DAVID SMITH, M.D., Glasgow.

9th July 1844.—I was consulted this morning by J. K., aged seventeen years and five months, who stated that during the previous night she had become affected with severe pains in the lower part of the back, occurring in paroxysms, and attended with a sense of bearing down within the pelvis—her feeling being as if the bladder was distended, while the pain was caused by her fruitless endeavours to empty it. In the absence of the paroxysm little or no uneasiness is felt in the hypogastrium, but the attempt to void urine always brings on the pain, which is then increased by pressure. The bowels are very constipated; and the abdomen has been observed of late to be rather fuller than formerly. About two months ago she had a similar attack, although in a much slighter degree; and for several months she has been the subject of periodical attacks of headache. The pulse is seventy-six; tongue moist and pretty clean. No headache at present. I told her what I suspected to be the nature of her ailment, and what farther examination would be required, to which she was unwilling to submit, and left me promising that if not relieved after having the bowels freely opened she would send for me.

On being sent for in the evening, I found that the symptoms were much increased in severity, indeed, the patient seemed to be suffering as much as a woman in labour; the countenance was flushed and covered with perspiration, and the pulse had risen to 116; still, however, the chief complaint was ascribed to over-distention of the bladder. I immediately, but with some difficulty from the state of the parts, introduced a catheter, and drew off about two ounces of urine; at the same time, I satisfied myself of the existence of complete occlusion of the vagina from imperforate hymen, by finding an elastic tumour between the labia, attached around to the entrance of the vagina, evidently containing fluid, and becoming more tense during the paroxysms of pain, while it could not be mistaken for the membranes of the ovum as they present in parturition. This—the hymen—appeared very vascular, somewhat deepened in colour from the

effused catamenial fluid shining through it, and nearly in the centre there was a small spot abraded of the mucous coat as if by ulceration. The treatment was obvious; and in the presence of Dr Mackie I made an incision, about half an inch in length, through the membrane, when above a pint of dark treacle-coloured fluid escaped, followed by relief of all the symptoms; and, to prevent the edges of the incision from adhering together, I made the patient wear a portion of a small rectum bougie constantly in the opening for a few days at first, and afterwards only during the night-time. The catamenia have flowed twice since without any difficulty, and the use of the bougie has been discontinued.

When, from whatever cause, imperforate hymen is not detected at the period when the symptoms incident to the first appearance of the catamenia present themselves, the menstrual fluid, secreted month after month, distils from the uterus into the vagina, where it is retained, subject to some inspissation and diminution of its quantity, from the absorption of its more watery parts. As the catamenial function continues to be performed, the vagina is gradually distended—occasionally to a very great size—until it becomes incapable of receiving more of the monthly secretions, when the os uteri yields first, and the proper cavity of the uterus is next made available to the constantly increasing demand for space; by which time the hymen has generally reached a state of great tension, and is found pressing against the labia, or even projecting some inches beyond their level, anteriorly. Should high constitutional disturbance not have already supervened, and the case be still left to nature, the hymen, in consequence of its constant exposure to the air, and to the friction of the patient's dress, either becomes similar to the skin which is naturally covered by the ordinary epidermis, or it gets fretted, scabs form over it, or, as in the case above, ulcerated, in which state it is sometimes ruptured by the expellent force of the uterus, or by some sudden exertion on the part of the patient. The occurrence of this affection, therefore, may be more common than is generally supposed, seeing that females at the age when its symptoms appear are naturally timid in consulting a medical practitioner on a disease peculiar to their sex; and hence may be explained, probably, many of those cases in which females have been supposed to be not only pregnant, but, on the subsidence of the hypogastric tumour and restored good health, to have been suspected of being infanticides, although they were not in a state even to become such. To illustrate this to some extent, I may relate the following particulars of a case which, I dare say, will be admitted to have arisen from imperforate hymen. About two years ago, a poor woman consulted me regarding her daughter, aged nineteen years, who had never menstruated, but for several months pre-

vious had been subject to pain in the loins, loss of appetite, swelling of the abdomen and mammæ, &c., and she wished for medicine that might be of benefit to her ; but I refused to prescribe any thing until I should see the girl. Well, I heard nothing more of either mother or daughter for upwards of three months, when the former called on me again, and stated, evidently in much alarm, that her child, on the day before, while lifting a bundle of sticks on her back, "strained herself,"—that ever since a discharge of thick fluid, darker than blood, had passed from the vagina,—that the quantity which had escaped was very great, and that it flowed without any pain or feeling of exhaustion to the patient. The discharge continued for nearly a week, and menstruation from that time has been regular, while all her previous ailments have disappeared.

In such cases as these, it is fortunate for the patient when the true nature of her ailment is early ascertained, and the proper treatment adopted ; and a correct diagnosis is equally important to the medical jurist and the physician. This will be readily admitted by all who know into what errors others have fallen, and the results which have arisen to the patients therefrom. The pain in the back has been mistaken for some rheumatic affection, and treated accordingly ; it has been ascribed to the premonitory symptoms which occasionally accompany the first appearance of the catamenia, and no mean tried for its relief or removal ; in connexion with the enlarged abdomen and the tumour felt between the labia—which was supposed to be the membranes of the ovum—it has led to the belief that the patient was in labour ; and so on. Nay, more, a case actually occurred, and is recorded in the *Jour. de Méd. et de Chir. Prat.* Aug. 1841, in which the daughter of one of the "most respectable peasants in the canton" in which she resided, eighteen years of age, was accused of having secretly given birth to a child, on the testimony of the officer of health of the district, who reported that he found "all the signs and traces of delivery having taken place some seven or eight days ago," when in fact she had been operated on fifteen days previously for imperforate hymen.\* Now, these instances of neglect and inattention were not committed only by the illiterate or practically ignorant portion of the profession ; and surely, therefore, when such men as Dr Smellie—who candidly acknowledges that in one instance he took the protruded hymen for the membranes of the ovum forced down by labour pains—have been led, however hastily, into an error so great, it is attaching no undue importance to this disease to say that an accurate diagnosis is a matter of no less credit to the medical practitioner than it may be to the health and reputation of the patient.

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\* Previous to the operation the appearance of the patient was that of a woman in the eighth month of pregnancy.

In performing the operation required for imperforate hymen, authors recommend that a large or crucial incision should be made through the membrane; but I consider the adoption of this practice both uncalled for and dangerous. That it is uncalled for, is evident from the fact, that a small opening is, in almost every case, sufficient to permit the escape of the retained fluid; and I am not aware of any case in which *coagula* have been found larger than could have passed through an incision half an inch in length. The opening in the natural healthy condition of the parts is smaller than this; and if care be taken on making our incision to prevent the edges of the wound from adhering until they are completely cicatrized over, I cannot conceive that there will be contraction to any sensible degree afterward. And it must never be forgotten, that cases are recorded in which very serious symptoms have followed the division of imperforate hymen, arising from inflammation of this membrane, and extending to the adjoining structures; nor is it enough to say, that a large incision is necessary for the better cleansing out of the soiled parietes of the uterus and vagina by injections; for if these be thrown up frequently, and with some force, a very small opening will allow of their escape, together with any remaining coagula, or "grumous and gritty" particles of the inspissated menstrual fluid. Had Dr Genin, the operator in the case previously alluded to, not cut so freely as he seems to have done, he would have left proof, even to a very ignorant "officer of health," that delivery of a child in the eighth month could not have taken place, as well as avoided some little bodily and much mental suffering to his patient.

GLASGOW, 17th September 1844.

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*The Supra-Condylloid Process of the Humerus and of the Femur; a Letter from Dr ROBERT KNOX, Lecturer on Physiology, to one of the Editors, accompanying the Translation of an Extract from a Memoir on these Processes by Dr F. J. JULIUS WILBRAND of Giessen.*

A FEW years ago, I recorded in the Edinburgh Medical and Surgical Journal, conducted by Dr Craigie, a case in which the processus supra-condyloideus humeri was extended in man to the inner condyle of the humerus by means of a ligamentous or fibrous band, thus assimilating the inner arm, to a certain extent at least, to the arm of the tiger, cat, panther, &c. In the case to which I allude the resemblance went still farther, for the median nerve and brachial artery deviated from their usual course to pass behind this process (as in the tiger's arm), re-

turning afterwards through the short canal it contributes to form, to occupy their usual or normal position at the bend of the elbow.

A short time ago, Mr Paget of London, a distinguished philosophic anatomist, had the kindness to transmit me a pamphlet or thesis written by an ingenious German student, and published at Giessen in 1843. The object of the thesis is to show, that a process similar to the one I described on the human humerus bone is occasionally to be found on the femur. The thesis is written in German, and being but very imperfectly acquainted with that language, I send you the original, together with a translation made for me by my much esteemed friend, Dr A. M. Adams of Glasgow. Should the matter appear sufficiently important, I shall feel obliged by your securing for the translation a place in the journal you conduct.

EDINBURGH, 7th Oct. 1844.

P.S.—I am aware that a memoir was published also in German by Dr Otto, of a more elaborate character than either of the brief notices by Dr Wilbrand and myself; but I have not been able to meet with a copy.

*A few Remarks upon the Supra-Condylloid Process of the Humerus.*

By Dr F. J. JULIUS WILBRAND, Giessen.

THERE are many of the mammalia, particularly such as resemble very nearly in bodily conformation the human subject (for example many apes), in which near to the inner side of the anterior surface of the lower extremity of the humerus, a ridge-like projection of bone is found extending downwards to the internal condyle. The median nerve and brachial artery followed from above are usually placed in these animals at first on the inner side of this osseous ridge, but they afterwards turn towards the anterior surface of the elbow-joint through a peculiar foramen under the ridge at this part, and then ramify in the ordinary manner. In many of the carnivora, particularly of the feline species, as for instance in the lion, the tiger, and the domestic cat, it is especially the case that between the bony ridge in question and the internal edge of the humerus there is a depression or gutter in which the median nerve and brachial artery are lodged before they pass downwards through the foramen already described as existing at this part.

Knox (see Edin. Med. and Surg. Journ., vol. lvi., 1841, page 125) describes this bony region in several animals of the feline species, and remarks, that such a ridge as has been described will also sometimes be found to exist in man. He appeals, for example, to a preparation of the humerus of a man in his museum, where, among other things, a small knob with a small thorn-like projection is seen in the direction of the internal condyle. In this instance a fibrous band extends from this osseous ridge or thorn-like projection to the internal condyle. The median nerve and brachial artery lay as in the above-named animals at first on the inner side of this raised

piece of bone, but they became afterwards placed under the fibrous band which formed the continuation of the bony ridge up to the point at which it terminated. Knox has never seen in man the complete connexion of this band into a true osseous ridge. He also, therefore, has given to the osseous projection the name of processes supra-condyloideus humeri.

In our anatomical theatre a preparation entirely similar to that described by Knox as the supra-condyloid process of the humerus was met with. In it also was observed a fibrous band stretching to the internal condyle. The median nerve and brachial artery both lay to the inner side of this osseous projection; they were afterwards ranged under the fibrous band, and turned about the middle of the flexure of the elbow-joint to their usual destination. This supra-condyloid process resembles in form the thorn of a rose-bush, is about six Parisian lines in length, and two lines in thickness. The point is directed towards the internal condyle, and from it proceeds the fibrous band just mentioned. The bone is represented in the annexed plate, and is placed amongst the other preparations in our anatomical theatre.

*A few Remarks upon the Supra-Condylloid Process of the Femur.*

In some animals, as for instance amongst the Edentata, in the armadillo (see Anatomical Researches upon the Edentata by William Rapp, page 30), amongst the Rodentia, in the beaver, amongst the Pachydermata, in the American tapir, there is found on the external aspect of the femur a strong bony projection, which sometimes occurs more towards the middle, sometimes more towards the upper, and sometimes more towards the inferior part of the femur. It is announced at least in some varieties of the tribe Cavia and Sciurus.

A completely analogous projection of bone was discovered last winter in our anatomical theatre in a preparation of the muscles of the thigh of a powerful man. It was found on that spot where the short head of the biceps muscle arises from the outer side of the lower extremity of the femur. It is one and a half (German) inches long, four lines thick, and projects outwards about three-fourths of an inch. A narrow inspection of it proved that it should not in any respect be considered as a mere exostosis. It was for the most part covered with the periosteum of the femur, and a tolerably large nutritious artery for the bone penetrated first through a special opening in this apophysis in order to spread further from thence into the interior of the femur.

I have, after much careful research amongst authors, been unable to find any mention made by any of them of such a projection having been found in man, and consequently have taken it upon me to name it the processus supra-condyloideus femoris. The above is represented in the annexed plate, and is preserved in our museum.

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*Surgical Cases.* By JAMES DUNCAN, M.D., Fellow of the Royal Colleges of England and Edinburgh, one of the Surgeons to the Royal Infirmary, Edinburgh.

*Strangulated Femoral Hernia—Gangrene—Death.*

JANE HUSBAND, æt. thirty, admitted on the 17th December 1843, was first seen by my friend Dr Douglas on the forenoon of the



17th, who, on ascertaining the nature of the disease under which she laboured, and finding that she could not be well attended to in her own house, recommended her removal to the hospital.

From the account which this patient gave, it would appear that she had been affected with femoral hernia of the right side for between three and four months, but that the bowel only descended occasionally.

Nine days previously to her admission she was seized with pretty severe pain of the abdomen occurring simultaneously with the appearance of the tumour in the right femoral region. The pain continued to increase, and the swelling in the groin likewise became the seat of considerable uneasiness. Vomiting shortly supervened; this after a time became stercoraceous, and the abdomen became somewhat tumid and tender to the touch. These symptoms continued, the tumour in the groin increasing, becoming red and more painful. On the 14th the vomiting ceased entirely, and was succeeded by occasional hiccup. Up to this date there had been no evacuation of the bowels, and there was none until the 17th, the day of her admission, when it was stated that there had been two scanty fetid evacuations. These, however, on examination were found to consist of some fetid fluid mixed with urine.

On the 17th, when I first saw this patient, she was in a very feeble condition, although perhaps not so much so as might have been expected in a person who had laboured for nine days under strangulation of the bowel. There was occasional nausea, but no vomiting. The abdomen was much distended, but not very tense, and the tenderness was by no means very great.

In the right groin there was a tumour of considerable size, as large nearly as a goose's egg. There was much surrounding condensation of the cellular tissue, and the integuments were of a dusky red hue, and pitted on pressure. Over a considerable portion of the tumour, deep-seated fluctuation, accompanied with an emphysematous crackling, was perfectly distinct. Slight percussion over the swelling elicited a clear sound. In appearance the swelling bore a very great resemblance to a neglected bubo, in which suppuration had taken place, and the integuments were threatening to slough. Pulse 95, small and weak; skin rather cold; tongue furred, brown, and rather dry.

Immediately after her admission a T-formed incision was made, and the parts divided down to the sac. This was next opened, and a small quantity of a dark fetid fluid escaped, having the characteristic gangrenous odour. A fold of small intestine of considerable size lay in the sac, a great portion of it was in a state of gangrene, and in one part the slough had separated, leaving an opening into the gut of about three-fourths of its circumference in extent. No feculent matter, and no dis-

charge of any kind escaped from the bowel where it was exposed. There was no effusion of lymph between the bowel and the sac. The stricture was now examined, and found to be exceedingly tight. It was divided in the usual manner, and immediately a large quantity of fluid feculent matter was discharged by the opening formed by the separation of the slough. As the bowel was not adherent to the surrounding parts, I attached it to them by two points of interrupted suture, as I was afraid it might recede, and the feculent matter be extravasated into the cavity of the abdomen.

Shortly after the operation the woman expressed herself much relieved, and the distention of the abdomen rapidly subsided to a very great extent.

During the course of the evening the feculent matter continued to be discharged by the wound in considerable quantity. The patient continued in a much more comfortable state; the distention of the abdomen had diminished considerably, and the pain and tenderness were by no means great. The pulse and temperature of the skin continued much the same as before the operation, but the expression of collapse and anxiety had in a great measure disappeared.

18th, Continued in much the same state as at last report. The feculent matter continues to be evacuated by the wound, but, as might have been expected, not in such large quantity as yesterday. Pulse 100; in strength much the same as before the operation. Tongue moist. No increase of pain or tenderness. Distention of abdomen much diminished.

Ht. ol. ricini, ʒss.

19th, Noon. Had pretty copious evacuation by the wound this morning. Continues in all respects much the same as yesterday, and the abdomen bears pressure without producing pain.

8 o'clock, P. M. There has been no evacuation of feculent matter since the morning. About 4 P. M. there was considerable increase of the abdominal pain, and at present it is considerable. The distention has increased somewhat. There is much more expression of anxiety, and considerable restlessness, and she is troubled with occasional hiccup. Pulse 120—small, but wiry. Altogether there is a considerable change for the worse. Eighteen leeches were ordered to be applied, and calomel and opium were administered every three hours, but without relief. Matters went on from bad to worse, the pulse became intermitting, and she died on the afternoon of the 20th.

*Post mortem*, 21st. There were marks of extensive peritonitis. In the cavity of the pelvis there was a considerable quantity of serous effusion mixed with flakes of lymph. The intestines were matted together by recently effused lymph. Above the part implicated in the ring they were somewhat distended with flatus, but there was scarcely a trace of feculent matter. Below this point they were much contracted.

There were several circumstances in this case which at first tended to throw a little doubt over its real nature. This was, however, removed by further examination. The circumstances I allude to were, that some little time previously she had been affected with bubo, which had partially suppurated, and that at the time I saw her she had a profuse discharge from the vagina, attended with considerable irritation of the external parts. Then there was the report of the friends, that there had been feculent evacuation during the course of the day, and, lastly, there was the complete absence of vomiting for several days previously to our visiting her. Further examinations, as I have said, in a great measure removed any doubt. We found, as already stated, that the report of there having been feculent evacuation was incorrect; and on the mere absence of vomiting we could find but little, as it is known that, when gangrene of the bowel has ensued, the vomiting becomes less frequent, and in some cases ceases entirely, although the hiccup and distention of the abdomen continue as before.

As to the practice there could be no question; wherever doubt exists we must proceed on the supposition that the case is one of hernia. In describing the case, I have stated that when the bowel was exposed no feculent matter escaped, although the slough had in part separated, and that in consequence I immediately divided the stricture, which was followed by copious evacuation. "The incessant vomiting, pain, restlessness, distress, and extreme constitutional disturbance," says Mr Lawrence, "are caused by the distention of the alimentary canal above the stricture, and will not cease until that is unloaded. The first and most urgent indication is to procure relief, which we should hasten to afford, even if it were simply to release a patient from a condition of most urgent suffering." Judging from what Mr Lawrence has written in his section on the treatment of mortified hernia, one would be led to believe that all that is necessary, in the majority of cases, to procure the desired evacuation, is the incision of the sac, and likewise, if necessary, a free incision through the mortified part of the gut. "It is well observed," he says, "by my friend Mr Travers, that the division of the stricture is unnecessary, for the bowel is already relieved, at the expense of its life indeed, by the natural process of mortification." Mr T., however, afterwards adds, "that should the stricture be so narrow as to interfere with the discharge, a small incision will afford the requisite room." I suspect that the division of the stricture will be found to be more frequently necessary than we would be led to believe by the above extracts. In femoral hernia of small size, I believe that the division of the stricture, under these circumstances, will be almost invariably necessary; the constriction in these cases being almost always so tight as to interfere with, if not altogether to prevent, the passage of feculent matter. My own experience is, of course, but limited; but still, in the only three

cases of femoral hernia which I have met with in which the bowel was in a state of gangrene, and in which I operated, this was the case. In such cases, unless we divide the stricture, we might as well not operate at all, as we afford no relief to the patient, and scarcely diminish the chances of a fatal termination. I have mentioned that I retained the bowel in its position by two points of interrupted suture. Such a step may not have been absolutely necessary; but I was led to do so by the complete absence of any effusion of lymph, to prevent the bowel from retiring, and the fæces from escaping into the cavity of the abdomen. This may not have been absolutely necessary; but, under the circumstances, there was a danger that after the division of the stricture the bowel might recede. I have seen two cases operated upon, in both of which this had taken place, and a fatal result ensued; and, bearing these in my mind, I considered it right to adopt this precaution.

*Strangulated Femoral Hernia—Operation—Artificial Anus—Death.*

A. M'C., æt. forty-five, was admitted under my care on 22d April 1844. Was seen for the first time by Dr M. on the 19th of April, in consequence of a swelling in the left inguinal region, in the situation of femoral hernia, and attended with the usual symptoms of strangulation. The tumour was about the size of a hen's egg, and pretty tense. The greater part was reduced by the taxis, but a small portion remained which it was impossible to return. The symptoms were, however, so much relieved, that no further attempt was made at the time. In about twenty-four hours they again returned with severity, and it being still found impossible to reduce the remaining portion, she was sent to the hospital, from about a distance of ten miles, to have the operation performed.

I saw her immediately after her admission. She was then considerably fatigued by the journey, but not so much so as to prevent her from walking from the cart, in which she had been conveyed, to the ward, a distance of about a hundred yards. On examination, a small hernial tumour of about the size of a walnut was found on the left side. The tumour was exceedingly tense, and was the seat of considerable pain. The general symptoms of strangulation were well marked. There was a good deal of distention and general tenderness of the abdomen, with much pain, referred chiefly to the umbilical region. She had frequent vomiting, though not of feculent matter, and the bowels had not been moved from the time when she was first visited. There was constant hiccup, and the face was pale, and expressive of much anxiety. The pulse was 120, small, and compressible. As the attempts at reduction had previously been fairly tried, they were not long persevered with, after it was

found that they had no effect upon the tumour, and that they were productive of much pain. The woman, when the circumstances were explained to her, readily submitted to the operation.

The ordinary T incision was made, the sac opened, the stricture, which was exceedingly tight, divided, and a small knuckle of intestine, which was in good condition, returned without difficulty. When the finger was introduced after the reduction, a portion of intestine was found adherent to the peritoneum on the outer side of the ring, but not involved in the canal. All the pain and uneasiness of which the patient had complained disappeared shortly after the operation, and the vomiting and hiccup entirely ceased. An opiate was given, and during the course of the evening a dose of castor-oil.

23d. Has passed a pretty good night, but there has been no evacuation from the bowels. Pulse 100. Skin nearly natural. Distention of abdomen continues, but there is no tenderness on pressure. To have a large domestic enema. *Vespere*. No evacuation from the enema. Oil has been repeated. No return of the vomiting or hiccup. To have calomel gr. vi., ext. coloc. comp. gr. v., to be followed by a black draught.

24th. Still no evacuation. In other respects continues in much the same condition. About lb. ij. of tepid oil were thrown up the rectum, and retained for some time, but were returned without any admixture of feculent matter. At the suggestion of Dr Abercrombie, and under the belief that the want of evacuation depended upon want of tone in the intestine at and above the part which had been strangulated, gr. iv. of the ext. coloc. c. with sulph. quinin. gr. j. were given, and ordered to be repeated every two hours until the bowels were moved.

25th. No return of the vomiting or hiccup, and no return of the tenderness of abdomen, although there is much uneasiness from the distention. The pills have been continued as ordered, but without the effect of producing any evacuation. Twelve leeches have been applied. Pills to be continued.

26th. There has been free evacuation from the bowels this morning, and the patient expresses herself as being in every respect much relieved. Pulse 100, weak. Distention of abdomen very much diminished. During the course of the evening there was again free evacuation from the bowels.

27th. There has again been evacuation this morning, but some feculent matter at the same time escaped by the wound, and has continued to be discharged from it since. The patient expressed herself as being free from uneasiness.

28th. Continues in much the same state as at last report. Pulse 100. In the evening there was some return of the pain and tenderness of the abdomen, with some acceleration of the pulse. The patient was believed to be too much reduced to admit of general bloodletting, but eighteen leeches were applied

to the abdomen, and calomel gr. ii., with pul. opii gr. j.; to be given, and repeated every three hours. From this time the patient got gradually worse, and died on the 1st May, the bowels having been once or twice moved in the interval.

*Post mortem, May 2.* The portion of bowel which had been strangulated was found adhering to the ring by recently effused lymph. This was so little tenacious that the mere raising of the intestine was sufficient to detach it. A perforation sufficiently large to admit the little finger, and evidently produced by sloughing, existed at the part where it lay in apposition to the canal. A portion of the sigmoid flexure of the colon was found likewise attached to the outer side of the ring, but evidently by adhesions of older date, although they were likewise easily broken up. There was some serous effusion in the cavity of the pelvis, mixed with a few flakes of lymph, but in very small quantity. The bowels above the part which had been strangulated were considerably dilated; but the most remarkable change was the general softening which they had undergone. Their coats were somewhat thickened, but so lacerable that by very slight force they were readily torn across, and the finger could be pushed through them with the greatest ease. No other morbid change was discovered.

This case is interesting from the length of time which elapsed between the performance of the operation and the evacuation of the bowels, and likewise from the subsequent formation of an artificial anus. In its progress, and likewise in some of the morbid changes, it appears to me to bear a very striking resemblance to those cases of ileus so well described by Dr Abercrombie. The bowels, after the division of the stricture, were long of regaining their tone, became over-distended, and the usual termination followed—intense inflammation of the affected parts, as indicated by the extremely softened and lacerable state of the whole canal above the point which had been constricted. A strangulated bowel may, subsequently to its reduction, give way at two points; it may give way, as a consequence of gangrene, in the part contained in the sac beyond the stricture; and, again, it may give way by the process of ulceration at the part which was embraced by the constriction, as followed in a case which I shall immediately relate. In the case I have stated that the bowel at the time of the operation appeared to be in pretty good condition: such a degree of inflammatory action, however, had been established as to terminate in gangrene, and the subsequent formation of an artificial anus. Such an occurrence is by no means rare; and we find, in the different works on hernia, cases in which the bowel has given way at a much more distant period than in the present. Some are related in which this had occurred after the lapse of several, even five or six, weeks.

*Strangulated Crural Hernia—Reduction by the Taxis—Perforation by Ulceration after six Days—Death.*

Mrs W., æt. forty-five. On the 5th October I visited this patient with my friend Mr Knox. She was then labouring under symptoms of strangulated hernia. The account given of the case was as follows:—On the 3d, she observed a small tumour in the left groin, but as it gave no uneasiness, no attention was paid to it. It continued in the same state during all that day and the next, the bowels having during that time been freely moved. Between the night of the 4th and the morning of the 5th it became painful, and shortly afterwards she began to complain of general pain of the abdomen, which during the night was accompanied with frequent vomiting.

She was seen by Mr Knox about 1 P. M. on the 5th, about nine hours after the symptoms of strangulation had commenced. The symptoms were then urgent. The hernial tumour was about the size of a walnut. It was tense and painful, and there was considerable general pain of abdomen, but no great distention. There had been frequent vomiting, and latterly this had become feculent. There was much anxiety; the face was pale, and the skin rather cool. The pulse was small, about 120, and easily compressed. Mr K. immediately employed the taxis, and reduced the protrusion; but on returning about two hours afterwards, he found that the symptoms of strangulation continued, and I visited the woman along with him at 5 P. M. She was then very much in the same condition as already described, but there had been no vomiting for upwards of half an hour, the last ejections being as we found feculent. On examining the groin, the sac of the hernia alone could be felt. A large injection was now ordered. This was given, and returned without admixture with feculent matter; but in about half an hour there was a copious evacuation. I saw the patient along with Sir G. Ballingall and Mr K. at 7 P. M. She then felt much relieved, and there had been no return of the vomiting; but the abdominal tenderness still continued, and in other respects there was but little change.

6th, During the course of the night she had a second evacuation, but it was more scanty. No return of the vomiting. Abdominal tenderness much the same as yesterday. Pulse 120, small, feeble, and rather intermitting. From the great debility of the patient, who had laboured for some time under symptoms of cancer of the uterus, depleting measures were inadmissible; calomel and opium were in consequence prescribed, and ordered to be repeated every three hours.

The patient continued in much the same state until the evening of the 10th, the eighth day from the appearance of the tumour, and the sixth from its reduction, the bowels having been

repeatedly moved during the interval. There had been no return of the vomiting, but the abdominal tenderness, though somewhat relieved, still continued.

On the evening of the 10th, she was seized with sudden increase of the pain. This was followed by rapid sinking, and she died on the morning of the 11th.

On the 12th, we had a post mortem examination.

On dividing the abdominal parietes a considerable quantity of fetid air escaped. A large quantity of fluid mixed with lymph and thin feculent matter was found in the pelvic region, and the intestines were matted together by recently effused lymph. The portion of intestine which had been strangulated was found slightly adhering to the abdominal parietes, about an inch and a half external to and below the crural ring. A transverse opening of about half an inch in length was found to exist in it, and to one side of this the bowel was dark-coloured, and evidently in a state approaching to gangrene. On the other side, at the part where the bowel had been adherent, it was covered with a thin layer of lymph. The opening was transverse, evidently produced by ulceration, and with the exception that its edges were slightly rounded, resembled very much what might have been made by a cut with scissors or a bistoury. Malignant ulceration of the uterus and upper part of the vagina existed to a considerable extent.

This case illustrates well the rapidity with which changes leading to fatal consequences may take place in strangulation of the intestine, and consequently inculcates strongly the danger of delay in having recourse to the necessary remedial measures. The patient had been seen by Mr W. Knox certainly within ten hours after symptoms of strangulation had manifested themselves, and the bowel was immediately reduced by him, but the mischief leading to the subsequent perforation of the intestine had already been effected. The case affords an example of the second mode in which perforation of the bowel takes place, which I have already alluded to,—that by ulceration at the point where it had been embraced by the stricture. This kind of perforation is by no means uncommon, and proves inevitably fatal from the intense peritonitis excited by the escape of the feculent matter into the cavity of the abdomen. This termination occurred in the case of a patient I was called to see some time ago, when she was in a moribund state, the case having been mistaken for one of mere constipation, and treated accordingly; and I have likewise in my possession a preparation, taken from a patient who had been under the care of my friend Mr J. Goodsir, in which a lesion of a similar kind is beautifully shown. The possibility of this occurring appears to me to afford an additional argument in support of the propriety of dividing the stricture in cases of mortified hernia when evacuation does not take place after the incision of the sac and bowel.



*Strangulated Inguinal Hernia—Division of the Stricture outside the Sac—Cure.*

J. S., æt. seventy, Jamaica Street.—I was called to see this patient late on the evening of the 21st February. He stated that he had been affected with inguinal hernia of the right side for a number of years. He had never worn a truss, the tumour had never occasioned any inconvenience, and until the morning of the day on which I saw him, he had never experienced any difficulty in returning it, little more being required than the assuming the horizontal position. For some days he had had no evacuation.

On going to bed the evening before, he had returned the hernia as usual, but on awaking about five o'clock in the morning he found that it had descended in increased volume, and that he was unable to reduce it. Shortly afterwards the tumour became the seat of considerable uneasiness, and he began to complain of twisting pain at the umbilicus. These symptoms, however, did not become so urgent as to induce him to send for assistance until the afternoon, the signs of strangulation being then fully established.

The tumour when I first saw him was of considerable size and very tense. It was exceedingly tender, and any attempts to reduce it gave considerable pain. There was but little distention of the abdomen, and very slight tenderness, but much complaint of twisting pain at the umbilicus. Vomiting had only commenced about two hours before I visited him, and was not yet feculent. Pulse 108. Skin moderately warm. Countenance expressive of much anxiety.

After the attempts at reduction which Sir G. B. and myself made, had, after what we considered a fair trial, failed, the circumstances of the case were explained to the man, and he readily submitted to the operation.

An incision of about three inches in length was made over the neck of the tumour, and the tendon of the external oblique exposed. It was at once seen that the external ring was the seat of the stricture. The constriction was exceedingly tight, and the edges of the ring were completely concealed by the projection which the tumour formed around them. I determined upon dividing it if possible without interfering with the sac. This was accomplished with facility by dividing the constricting parts with the point of the bistoury, these, from their state of tension, giving way at the slightest touch. The only difficulty met with arose from the edge of the ring being concealed by the bulging which the tumour made around it. This, however, was easily overcome by drawing down the tumour and compressing it with the point of the finger immediately below the point where it was wished to divide the stricture.

After about four or five lines of the tendon were divided in

this manner, it was at once seen that the constriction was relieved, and the intestine was returned without the slightest difficulty. The edges of the wound were brought together by a few points of interrupted suture, and a compress and bandage applied. Within an hour after the operation the bowels were moved, and all the distressing symptoms entirely disappeared. From this time every thing went on well, and the greater part of the wound healed by the first intention.

In this case I followed the practice of dividing the stricture external to the sac,—a practice which, although ably advocated by Mr Key and others, and unquestionably in very many cases an exceedingly safe one, has been but too generally opposed. It appears to me to illustrate very well the facility with which in many cases this operation can be performed, and its comparative safety to that generally followed. The danger of wounds involving the peritoneum, more particularly if the parts are in a state of inflammation, is well known, and I have no doubt that had I in this case operated in the usual manner, the chances of recovery would have been much diminished. Every surgeon must have seen cases of hernia, operated upon under the most favourable circumstances, terminate fatally in consequence of the inflammation following the operation. I have myself seen many terminate in this manner, in which no appreciable amount of inflammatory action existed at the time of the operation, and in which the fatal termination could, in my opinion, be ascribed to no other cause than the mode of operating, the laying open of the sac, the necessary exposure of its contents to the external air, the handling of the gut, &c. Several of these, and more than one on which I myself have operated, might, I have no doubt, have terminated differently had the practice I adopted in this case been pursued; and I am certain it might in several of them have been accomplished with great facility.

The arguments in favour of this operation, and the objections to it, have been very fairly stated by Mr Key in his memoir on this subject, and I have no doubt that were the practice more frequently tried, its efficacy would be established. There are very many cases in which the attempt to perform the operation in this manner would be improper if its performance were not impossible; but in many it might be attempted, I should say in most in which the attempt at reduction by the taxis is allowable. If we succeed, there is this great advantage that instead of a wound implicating important parts, we have simply an incision of the soft parts external to the sac, and attended with little more risk than if the protrusion had been returned by the taxis. If we fail, little or no harm is done. “A prominent character of the operation, and one that raises it above many of the objections that have been brought against it,” is, as has been well said by Mr Key, “that should the attempt to execute it fail, either from want of dexterity on the part of

the operator, or from any peculiar difficulty in the case, the operation can be completed in the ordinary way by laying the sac open."

"A surgeon may possibly find great and insuperable difficulty in dividing the stricture externally to the sac; or, having divided the stricture, he may be unable, by the best-directed efforts, to return the contents of the hernial tumour. In such a case, he has not brought himself into any dilemma by his unsuccessful attempt; the operation may proceed as if it had not been made; and neither patient nor surgeon is in a worse position than if the sac had been opened in the first instance without the attempt to preserve it entire. It is no slight recommendation of the operation, that its failure involves the surgeon in no embarrassment, but leaves him at liberty to adopt the old mode of operation."

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## PART II.—REVIEWS.

*A Bill for the better Regulation of Medical Practice throughout the United Kingdom.* (Prepared and brought in by Sir James Graham and Mr Manners Sutton.) Ordered by the House of Commons to be printed, 7th August 1844.\*

As respects the Medical Reform Bill, we on this side of the Tweed find ourselves in a comparatively enviable position. We feel an unfettered ability to peruse and re-peruse the bill in all its clauses, while most of our brethren of the South, spell-bound to that clause which repeals the apothecaries' act, cannot go on to read further for crying out unceasingly, Wo,—like the Jew of whom Josephus speaks,—wo to the public when pill, draught, or potion shall be sent out without the license of the worshipful company! We in Scotland owe our self-possession on this occasion, not to any peculiar legal protection unconceded to our English brethren, but to what seems at first sight the poverty of our privileges as compared with theirs, namely, the want of any permission sanctioned by recent law, such as they enjoy, to attempt the sport of laying salt on the tails of irregular intruders on the domain of physic.

With the exception of one or two privileged spots where the practice has long been obsolete, Scotland has all along been without any legal means of putting down either the impudent quack who boasts that his skill is unimpeded by board, privilege, or diploma, or the sneaking knave, who counterfeits the air of a legal practitioner. Nor does the country suffer any particular inconvenience from the want of a law, the repeal of which in the South bids fair, according to many eloquent authorities, to depopulate that part of the island within a few years. We state this as a fact, of which our English brethren should be made aware, as likely to be of use in making up their

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\* For the resolutions adopted at meetings held for the purpose by the Royal College of Physicians and the Royal College of Surgeons of Edinburgh, on the proposed Medical Reform Bill. See pp. 62, 63.

minds on this part of the bill, as soon as their ordinary sound sense returns, rather than as a proof that they have not reason on their side, when they complain of the existing restrictions on practice being about to be removed. For it may be that Scotland is less visited by unlicensed practitioners merely owing to the proximity of the fatter harvest which England offers.

We think it quite right then that the removal of the restriction imposed by the apothecaries' act on unqualified persons sending out medicines to the sick, as is proposed in the new bill, should be seriously considered before being assented to. And we are glad to observe already that the sentiments of the speakers, in the more recent meetings, partake more of a discriminative and less of a vituperative spirit than prevailed at first. For we humbly conceive that the absence of the restrictive enactment in question, in the present early stage of its progress, should not be made a ground for a sweeping condemnation of the whole bill.

It appears to us, little skilled as we are in the interpretation of acts of parliament, that the enactment or non-enactment of this restriction forms no part of the principle of the bill—that it is in short a matter of detail for arrangement after due consideration when the bill comes into committee.

It will be easy to make it appear that the removal of this restriction is no part of the principle of the bill. To restrain unqualified persons from practising is one of the great objects of the bill—its only other great object being to raise the character of medical practitioners, by preventing the licensing bodies from granting qualifications on too easy terms. Look to the register; look to the large share of the provisions of the bill devoted to the creation and working of this new protection against the intrusion of irregular practice; look to the penalty imposed on every one who, not being qualified according to the provisions of this measure, shall act in any medical or surgical appointment to which regular practitioners alone are made eligible; look to the fine, imprisonment, or both, which may summarily, that is without a jury, be inflicted on any one “who shall wilfully and falsely pretend to be, or take or use any name or title implying that he is registered under this act.

Surely these provisions have for their object to shut out unqualified persons from practice.

The bill therefore, and the objectors to the bill, have the same end in view; and the objectors to the bill differ from the authors of the bill merely in the particular mode in which the said end is to be accomplished. The objectors think that the new enactments of a general register, the inspection of credentials by a proper tribunal, and penalties or imprisonment for the unauthorized assumption of regular medical designations, will be of no avail to restrain the intrusion of unlicensed persons into the medical practice of the kingdom—and that to secure this object, there must be retained a penalty for sending out medicines to the sick without a license—for this penalty is obviously the only restraint against unqualified practitioners afforded by the apothecaries' act.

The framers of the bill think differently. But if the bill, by other means not incompatible with the retention of this restriction, seeks the same object, surely the repeal of this restriction cannot form an essential part of the principle of the bill; and as a matter merely of detail and arrangement, it as certainly cannot vitiate the whole bill.

We shall not at present enter on the grounds on which the framers of the bill appear to proceed in the omission of the restriction referred to. We think it sufficient to show, that the omission of it is not a necessary or

integral part of the bill. And that being shown, we attain the calm state of mind which is requisite for the grave consideration whether that restriction be or be not necessary for the purpose contemplated. We confess we distrust the power of any measures to abate the evils of impudent quackery, except the promotion of such knowledge as may slowly teach the public its absurdity. The penal clauses in the bill are plainly directed, not against the quack, who rails at and defies the profession, but against the pretender who cheats the public by passing himself off for a regular practitioner. The point for consideration is, how far additional penalties are required to restrain such pretensions. We see no occasion for any new penalties in Scotland ; but we are of opinion that, as respects the whole empire, it is not for a small part of the profession to pronounce on this question. Mere eloquent declamation on this topic, sometimes prompted we suspect by interested motives, we must wholly disregard ; but a little longer time, we make no doubt, will bring out a sensible opinion on this subject from the reflecting part of our brethren. And if it be found, after a few months' reflection, that it is the deliberate opinion of the profession at large that other restrictions are necessary besides the hitherto untried means proposed in the bill, it is impossible to doubt that the promoters of the bill will freely consent to their introduction.

The preamble of the bill declares, that "it is for the good of all her Majesty's subjects that the knowledge of physic and surgery should be promoted, and that means should be afforded whereby those who have been examined and found skilful by competent authority may be known from ignorant and unskilful pretenders to the same knowledge."

With this, the professed object of the bill, surely all the honest objectors agree. All who have the joint interests of the public and of the medical profession sincerely at heart are here at one—they are all actuated by one spirit. But are there no enemies to all medical reform ? are there none who will have no alteration on the present state of things, except what suits their own private views of notoriety and distinction ?

Let the friends, then, of judicious reform beware of leaguering themselves in concert with the enemies of all reform. Let us beware of being made unwittingly the cat's-paws of a faction. Let us beware, while we are honestly exclaiming against certain parts of the bill, that we are not furtively pushed beyond our mark, and made to play the game of a party behind the curtain, whose views are totally opposed to our own. This danger we shall avoid, however free our criticisms may be, provided, while we make them, we preserve the calm tone of deliberation.

In this tone we have still several points of the bill to consider, and these we propose to take up chiefly in the way of an interpretation of the remaining prominent clauses of the bill as affecting the whole interests of the medical profession.

Our remarks will fall chiefly under the two following heads : 1. The Functions of the Council of Health and Medical Education ; 2. The Constitution of the said Council.

The functions of the Supreme Council, by this bill, are manifestly twofold—ministerial and legislative. Its ministerial functions are sufficiently simple, namely, to see the express provisions of this Act carried into effect—to conduct the registration of legal practitioners according to rules fixed thereby—to collect and dispose of the fees imposed on the registration of the several orders of the profession, and on the registration of students in the schools of medicine.

The legislative functions of the council, though not expressly defined, are

plainly very extensive. The three following clauses of the bill are the chief foundations of this legislative power.

"And be it enacted, that the said several colleges shall, from time to time, when required by the said council, prepare and lay before the said council a scheme or schemes of the course of study and particulars of the examination to be gone through by all persons applying to such colleges respectively for letters testimonial as physician, or surgeon, or licentiate, and of the fees to be taken for examination and admission into the said several colleges respectively; and the said council shall be empowered to make from time to time such changes in any of the schemes so laid before them as to the said council shall seem expedient; and the said council shall endeavour to procure, as far as is practicable and convenient, that the qualifications and fees for the said testimonials shall be uniform, according to the nature thereof throughout the said United Kingdom."

"And be it enacted, that it shall be lawful for the said council to make regulations for ensuring the registry of all medical and surgical students, by the proper officers of the several hospitals or medical or surgical schools at which they shall study, and to authorize such officers to take a fee for such registration, not being more in each case than *ten shillings*, and for requiring all such fees to be remitted to the secretary of the said council, and returns to be made to them of the registration of all such students, in such manner and form as the council shall think fit; and no hospital or medical or surgical school shall be recognised by any of the said colleges, which shall neglect or refuse to give due effect to such regulations, after notice of such neglect or refusal shall have been sent by the said council to the said colleges, until the default of such hospital or medical or surgical school be amended to the satisfaction of the said council, and all such fees shall be applied toward the expenses of this act."

"And be it enacted, that the council may from time to time require returns to be made in such form, and including such particulars, as they shall think fit, respecting the examinations to be conducted as aforesaid, and it shall be lawful for any secretary of the said council, deputed by the council for that purpose, or for any member of the said council, to be present at any of the said examinations; and if the council shall be of opinion that the regulations prescribed by them for the examination and grant of letters testimonial as physician, surgeon, or licentiate, have been infringed, evaded, or neglected by any of the said examining bodies, it shall be lawful for the said council to refuse to register upon the testimonials of the body so in default until the same be amended to the satisfaction of the said council."

These clauses unequivocally invest the council with what is tantamount to a power of fixing what course of study shall be required from the candidates for the several grades of the profession, what fees shall be exacted by the licensing bodies, and what schools and lectures shall afford the required qualification for examination, and what shall be the extent and rigour of the examination to which candidates are to be subjected by the appointed examiners.

We remarked above that one of the great objects of the intended act is to raise the character of the medical profession by preventing the licensing bodies from granting qualifications to practise on too easy terms. The legislative control here bestowed on the council is the means by which this object is principally to be effected. In the bill itself there are very few express provisions bearing on the extension of medical education.

The bill prescribes nothing as to the education of licentiates in medicine and surgery; it enacts nothing positive in regard to them except that they shall be twenty-one years of age, and that they shall be examined by the Colleges of Physicians and Surgeons, with the assistance in England of the Court of Examiners of the Apothecaries' Company. As to surgeons and physicians, the bill is in so far more definite that, without laying down any precise curriculum, it requires a period of at least five years of study from both, the age being fixed for the surgeon at twenty-five and for the physician at twenty-six. For the surgeon an examination before one of the royal colleges of surgeons suffices—for the physician, besides a degree from a university coming within certain conditions, an examination before one of the royal colleges of physicians is required. For a foreign degree some additional steps are prescribed. To candidates of twenty-two years of age, the universities are permitted to grant the degree of bachelor in the faculty of medicine, the curriculum and period of study for the attainment of which are not prescribed, nor does this degree give any title to practise unless in virtue of the license of practitioner in medicine and surgery, which may be conjoined with it if obtained in the usual manner.

It is apparent that an act of parliament of itself must be altogether inefficient for the purposes here intended. In a state where there are twelve legally appointed licensing bodies, it must be wholly impracticable by a mere act of the legislature, without a supreme controlling body like the council of this bill, to raise uniformly the character of all grades of the profession, and to equalize the conditions on which qualifications are granted. A supreme council possessed of a legislative control is indispensable. A supreme council for the like purpose, though differently constituted, was proposed in their respective bills, both by Mr Warburton and Mr Hawes. In the council to be established by the home secretary's bill the legislative power is not direct but indirect. That is, the council has not the power of framing regulations at once for the licensing bodies—but a power of compelling the licensing bodies to conform to one standard, by a threat to refuse to register the license of any refractory body. It is obvious that the influence of the licensing bodies, particularly if a spirit of combination arise amongst them, will act as a considerable check to the legislative power of the council. And the existence of such a check is, we should imagine, better fitted to satisfy the profession at large, than an unlimited power given at once to a new and untried assembly.

We believe that the first exercise of the power of the council will not go much beyond the compelling all the licensing bodies to come up to the standard of those which are at present most strict in regard to their curriculum of study and examinations. But it is doubtful whether, by the present provisions of the bill, this power of compulsion will be sufficient as respects degrees in medicine. Thus some of the universities may refuse to conform, and insist on granting the degree of doctor at twenty-one or twenty-two years of age, after three or four years' study, and without the assistance of any of the royal colleges of physicians. It is true the bill declares it to be unlawful, but in as far as the university is concerned no penalty is imposed or other means of prevention enacted beyond the refusal of the council to register such a degree. But as many may wish to get a degree without more time or trouble than are required for the license in medicine and surgery, it may be for the interest of a university to persevere in granting degrees on the same terms. For a person who has thus obtained a degree on easier terms, if he has become a licentiate in medicine and surgery, may

legally practise as registered under that designation, while he assumes the title of doctor without being registered as a graduate. And even if all the universities in the United Kingdom prove willing to conform to the proposed act, a foreign degree, unless means be taken to prevent it, will give room for the like assumption of the title of doctor. As it stands at present, the bill affords no security against this assumption, unless, under the last clause but one, magistrates will consent to convict a registered practitioner of a misdemeanour, and sentence him to fine or imprisonment, or both, for putting Dr on his door without being registered as an M.D.—This we regard as an impossible conviction.

These are all the observations we can take time to offer in connexion with the power of the council. We pass on to the constitution of that body.

There are plainly two parties to the benefits which the bill is designed to communicate, namely, the public and the legally qualified members of the medical profession. In the supreme council both parties must be represented, otherwise one or the other is entitled to complain of injustice. Much as we respect the opinion of Dr Brown of Sunderland, we cannot agree with him that, "considering the functions of the council, there can be no doubt that it ought to consist entirely of medical men."\* Measures to put down irregular practitioners will be of no avail unless in so far as we carry the public along with us. And the public voice will not second our efforts if the measures resorted to issue from a purely medical body. Some few inconveniences no doubt may result from the presence of non-medical persons in the council. But the assurance given by the proposed constitution of the council against measures dictated by the "*esprit de corps*" of a purely medical body will reconcile the public to its proceedings, and enlist their hearty co-operation in the cause of medical reform.

Now there cannot be for such a purpose a better representative of the public interest in the council than an influential officer of the crown, and the higher the station of that officer the farther is he removed, as all experience teaches, from the petty private interests which might interfere with the working of the measure for the general good.

As far then as we can see at present, one of her Majesty's principal secretaries of state will make an unobjectionable element of the supreme council. It is always easy to point out possible evils. We here go on the ancient maxim, "*minima de malis eligenda sunt.*" But to connect the alleged evils of this bill with the personal character of the present home secretary, as has been industriously done in some quarters, is surely unworthy of the understanding of a body of men which, like the medical profession, claims to be learned, and the members of which assuredly are advisers in cases that require wisdom. Let the bill be voted on every side impracticable, still the medical profession owe their thanks to Sir James Graham for making an effort, amidst his multitudinous avocations, to bring it to its present stage—and in particular for giving them so many months of leisure to deliberate on its fitness or unfitness for their purpose. Bad as it may be pronounced to be, it is not assuredly a party measure, or one which can have any other effect on the party in power than to add one more to their numerous embarrassments. In the deliberate debate of the merits and demerits of this measure up to the meeting of parliament, we trust we shall not have party politics any longer added to the numerous necessary sources

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\* Letter from Dr Brown of Sunderland to Dr Forbes.—Provincial Medical and Surgical Journal, October 9, 1844, p. 433.



of difference of opinion throughout the conflicting interests of the several branches of the profession. Of the ability of the Times newspaper, in common with the rest of the empire, we have a high opinion. Our respect we show by being daily readers of it; yet we cannot but think that those assemblies of medical men which have voted thanks to the editor of the Times for the share which it has taken in the unqualified condemnation of the bill have hardly acted a professional part. We are sure the sensible portion of those concerned will one day repent of their violence. The Times, without such thanks, has its own reward in finding flaws in a bill brought in by Sir James Graham—a fortunate opportunity of displaying its spleen against a particular member of the administration, without touching the general politics of his party, which it is for its present interest to support. The assiduity of the attacks in the Times on a measure which, one should think, cannot have more than a passing interest for its readers in general, makes us almost suspect besides that certain determined enemies of all medical reform have somehow acquired the privilege of dictating for the present to the host of unscrupulous ability which at all times presides over that newspaper.

So much for the principal representative of the public in the supreme council. Besides the secretary of state, there are seventeen members of the council, six to be selected by the crown without restriction, five incumbents of regius professorships from as many universities, and six representatives of the medical corporations or royal colleges in each of the three divisions of the United Kingdom. The bill gives no instruction to the crown to confine its choice of the above six members to the medical profession. We cannot help thinking, as we said above, that the authority of the council with the public—which is of no little importance towards the right working of the whole measure—will be greatly strengthened if these six crown appointments be kept non-medical. If it be the purpose of the government to select them wholly or in part from the medical profession, we trust they will be chosen chiefly from the provincial medical communities, and exclusively on account of the weight due to their professional character—to their eminence among their fellows as medical men.

There will not be much room for eloquence or even for business talents in the council. What is chiefly to be desired is a sufficiency of materials to command universal respect for its authority, with the profession as well as with the public—such a respect as shall gain a ready compliance with its wishes. And that respect, we may rest assured, can repose on nothing but a high aggregate of professional eminence in the council. Of Mr Wakley's talents, for example, nobody can doubt; but the profession in this country is not what we believe it to be if Sir Benjamin Brodie shall not carry with him in general estimation infinitely greater weight as a member of council. We trust the government will take pains to guide its choice, if medical men are to be chosen, by the rule here hinted at.

The five members *ex officio* in virtue of filling regius professorships in the ancient schools of the kingdom, will form the permanent nucleus of the council, as holding their places at the board by the same tenure as their professorships, "*ad vitam aut culpam*." We confess we do not see our way very clearly through the final working of this advantageous position of the particular representatives of the universities in the council. But, as the bill is now proposed for the purpose of substituting one kind of order for another kind of order, but, indisputably, to introduce order where an almost primitive chaos reigns at present, we dare not object on merely speculative grounds

to the policy of strictly uniting the first attempted council of medical education in the empire with the educational institutions which have commanded the veneration of the country for centuries.

We have remarked on twelve of the eighteen members of the council. The remaining six are the representatives of the medical corporations or royal colleges in each of the three divisions of the United Kingdom. We shall not enter on a point fraught with so many topics of dissension as the character, uses, and bearing of these corporations in the profession. Suffice it to say, that these have hitherto been the only channels through which the government or the public could communicate with the medical profession. And we will add, that whatever may have been their demerits in past times, they are not to receive the privilege of a representative without being themselves opened up and subjected to considerable reformation and control.

Of the representation of these corporations in the council it is to be remarked, that it is not till after the expiry of three years from the first establishment of the Council of Health and Medical Education that their privilege comes into operation, and five years must elapse before all the six royal colleges of the United Kingdom come to influence the council by representatives of their own choosing. For the crown is to appoint all the members of the first council except the five representatives of the universities, who are members in virtue of a previous royal appointment; and it does not appear that the crown is obliged by the act to choose the six members who, in that first council, are to stand instead of the future representatives of the royal colleges, from among the fellows of these royal colleges,—it is enough that three of them be physicians and three surgeons. So that it is quite compatible with the terms of the act that not a single fellow of any of the six royal colleges should have a seat for the first three years at the council-board. Whether any of these shall have a seat there or not will depend solely on the pleasure of the crown.

At the end of the first triennial period two of the members appointed by the crown on behalf of the royal colleges retire from the council, and then, as we infer, the two royal colleges of England send in their representatives; at the end of another year other two of the members appointed by the crown on behalf of the royal colleges retire, and the two royal colleges of Ireland or Scotland (it does not certainly appear which is to have the precedence, probably the more ancient colleges) send in their representatives—finally, at the close of five years the representatives of all the six royal colleges will have obtained a place at the board.

The apparent veto reserved by the bill to the crown on the representatives elected by the royal colleges, to which Dr Brown refers throughout the paper before quoted as a matter of high importance and very objectionable, we regard as a mere point of form or of etiquette towards the sovereign authority, of no greater practical efficiency than the form which is gone through of the crown approving of the lord mayor of London and of the speaker of the House of Commons after their respective elections. If this be not the light in which that veto is to be viewed, we disapprove of it entirely.

It is therefore a principal feature of this bill, that the influence of the royal colleges is excluded at the most important period of the proceedings of the council, namely, when it comes to exercise the authority conceded to it by the intended act over the several teaching and licensing bodies throughout the empire. And it is at the same time apparent that the

universities receive by the bill a far higher consideration than the royal colleges. If they complain, we must remind them that by either Hawes' or Warburton's bill it would have fared worse with them. And the profession at large, which now and then shows a jealousy, whether well or ill founded, against the royal colleges, will not probably be sorry to see the university influence exalted at their expense. If the first members of the council be honest, well-informed, painstaking persons, free from the bias of party spirit, we care not very much whence they derive their right of sitting at the board.

There are a few obscurities in the bill, and some questions suggested by it, to which we can give nothing more than a doubtful answer. Our limits permit us to take but a slight notice of some of these.

Is the registration fee, namely, two pounds for a physician or surgeon, and five shillings for a practitioner in medicine and surgery, to be repeated annually? We fear it is.

2. Will the two royal colleges of England have the power to confer the license of general practitioner if the Apothecaries' Company should decline to act along with the Royal College of Physicians? In case of difficulty, it should be given as an option to the Apothecaries' Company to act or not as they think fit.

3. Are the royal colleges limited in their choice of representatives to their own body? It is not indicated in the bill, nor is it very material.

It seems to be an unnecessary limitation on the choice of a representative to declare the president, vice-president, and examiners of those bodies ineligible. It would serve all the purposes of this clause if it were enacted that these functionaries, on being chosen into the council, should vacate their offices in the corporation.

4. It does not very clearly appear how students already engaged in their studies will be affected by the proposed act. We conjecture, however, that the regulations applicable to physicians and surgeons, namely, five years' study for both, and the age of twenty-six for the one and twenty-five for the other, are designed to be enforced on all from the passing of the act. But it is to be supposed, that on much the same courses of study as are at present prescribed, those who are studying for degrees in medicine will be able to take the degree of bachelor in medicine, and the license in medicine and surgery at twenty-two years of age, and those who are studying for the diploma of surgeon in Scotland and Ireland, and for the diploma of surgeon and the apothecaries' certificate in England, will be able at twenty-one years of age to take the license in medicine and surgery.

If this be the right view of the intention of the framers of the bill, there will be no retrospective operation of the act that can be complained of as respects the periods and curricula of study. And it would be unjust that there should. The act will be retrospective chiefly as relates to the form of the examinations. We are not sure if the student be strictly entitled to complain of this; but we are sure not a few will grumble, and that loudly, which is natural enough for those who feel themselves compelled to be the first to try an unbeaten track.

It does not appear whether the fee for the registration of students, not exceeding ten shillings, is to be annual, or if not, if it is to be repeated as often as he changes the school at which he studies. If it is to be annual, or to be charged at each new school, it should be diminished. It would be desirable also that the student had some means of being distinctly warned against such delinquencies, in the schools where he may think of studying,

as infer forfeiture of their privileges by the council. Such a forfeiture should not take place till after a distinct intimation, before the commencement of a session, issued by the council, and accessible to the students.

5. The term legal practitioner admits of some doubt. This doubt would be removed were it declared that all who are legal practitioners in one division of the United Kingdom are also for the purposes of the act to be held legal in the other divisions. Thus, there are at present practising as general practitioners in England not a few graduates of the University of Edinburgh, holding also for the most part the diploma of the Royal College of Surgeons of London or Edinburgh without the apothecaries' certificate. These are not legal practitioners in the eye of the apothecaries' act—they are legal physicians and legal surgeons, but not legally qualified in England to send out medicines to their patients. They practise on the English plan, if not by the voluntary tolerance of the company, at least by the respect which it has felt compelled to pay for some years past to public opinion.

Is it then intended to recognise these as legal general practitioners in England? For it does not certainly appear that the diploma of surgeon in England, or yet a degree in medicine, will entitle one already in practice to register in England as a general practitioner. With these somewhat hasty observations on the bill, we must close for the present.

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*The Principles of Surgery.* By JAMES MILLER, F.R.S.E., F.R.C.S.E.,  
*Professor of Surgery in the University of Edinburgh.* Edinburgh, 1844.  
 12mo, pp. 716.

NOTWITHSTANDING the numerous manuals which are in the hands of the student, a clear, concise, and systematic exposition of the principles of surgery, comprising the results of our most recent observations in the pathology and treatment of surgical affections, is much wanted. Such a work Mr Miller has endeavoured to provide; and in the volume before us, he has certainly supplied many of the deficiencies which are now felt in perusing our former manuals. Mr Miller's work contains a very large quantity of matter, at small cost, and in a condensed and convenient form for the student. It is prefaced by a very good historical sketch of surgery, reprinted from the *Encyclopædia Britannica*.

The arrangement of the work is, we think, well conceived. The first section comprises chapters on perverted action of the blood-vessels (inflammation and congestion); of the nerves (irritation, local and constitutional); and of the absorbents (atrophy, absorption); and chapters on suppuration, ulceration, and mortification.

The second section treats of perverted vascular action in certain tissues—the integuments, bone, joints, arteries, &c. The third section comprises, under the head of perverted nutrition, a description of the different kinds of tumours. And the last is devoted to the subject of injuries.

The various diseases treated of under these different sections are distinctly and fully described, their pathology is concisely and accurately given, and the rules of treatment laid down are intelligible and sound.

The first chapter in particular contains an excellent summary of the present state of our knowledge regarding the phenomena of inflammation, and is accompanied by several diagrams illustrating the changes which have been observed by the use of the microscope. The directions given for the

treatment of the different stages and degrees of inflammation are both clear and judicious.

Although the matter of the volume is good, we cannot pass over the style without remarking that it is, to our taste, not altogether suited to a didactic work on the principles of surgery. This is due, perhaps, to the circumstance mentioned in the preface, that the work contains the substance of the author's systematic lectures on the subject; and the style was, doubtless, adopted for the purpose of arresting the attention of his hearers, by giving a tone of popular interest to the dry details of surgery.

Not having received the work till the matter for this Number was nearly completed, we must content ourselves for the present with the above brief notice.

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*Guide to the Geology of Scotland; containing an Account of the Character, Distribution, and more Interesting Appearances of its Rocks and Minerals. With a Geological Map and Plates.* By JAMES NICOL, Author of a Catechism of Geology, Essays on the Geology of Peebles and Roxburgh, &c. Edinburgh, 1844. Small 8vo, pp. 272.

GEOLOGY does not lie strictly within our province. It is, however, a popular branch of knowledge. And it deservedly maintains that character, not merely as a subject of the most elevating kind, and of the most engrossing general interest, but as one leading to the most useful results in not a few of the arts which minister to the maintenance, the comfort, and the enjoyment of life. While, then, it is hardly allowed to any one belonging to the educated orders of society to confess his ignorance of geology, the members of the medical profession hold over others a particular advantage in this respect, that the preliminary part of their professional education necessarily introduces them to an acquaintance with the departments of knowledge, namely, chemistry, botany, zoology, on which geology essentially rests.

We think, then, our country readers in particular throughout Scotland, will not blame us for calling their attention to an elementary volume of moderate size, devoted exclusively to the geology of Scotland.

Notwithstanding the number of works on geology at large, in which particular features of Scotland are referred to, we have no doubt that many of our brethren on this side of the Tweed, active as their minds are, being too much occupied with their proper business to find time to hunt through separate memoirs, feel often at a loss regarding some of the prominent geological points in the district in which they reside. Here we believe they will uniformly find a solution of such difficulties. In short, here is a book which they may confidently recommend to their intelligent friends who are desirous of understanding the structure of the hills which bound their horizon, or the nature of the soil in the fields which they till, or from the rents of which they draw a comfortable maintenance—a work, we can truly say, which may relieve many a professional brother from very perplexing questions. The book is highly creditable to the knowledge, industry, and talents of the author. It contains a good coloured geological map of Scotland.

We quote the following passages, all that we can afford space for :—

“On entering Scotland from the south, the traveller soon finds himself in a region of transition rocks, rising into high green hills of rounded ob-

long forms, with grassy yet steep acclivities and flat tabular summits. Winding through its quiet pastoral dales, each traversed by a clear stream flowing onwards to the Tweed or Solway, the road at length reaches the summit of the mountain-chain, and, descending by a series of valleys on the opposite side, arrives in a region of an entirely different aspect. The scenery, though richer, is more tame, the narrow valleys are replaced by open plains, the mountains by low undulating ridges, or by hills often isolated and generally conical, or broken by harsh rectilinear terraces. The rocks now are secondary formations—sandstone, shale, coal, ironstone, trap,—whilst the carefully cultivated fields and the thick dark columns of smoke betoken a denser population, busy with those arts and manufactures of which the inferior strata afford them the means and materials. Continuing the journey northwards, another chain of mountains soon appears towering above the plain, but more broken and serrated in their outline, more sterile and desolate in their aspect, than those left behind. They seem to preclude all further progress, and it is only by following some of those rivers which break through the rocky barrier that access to their wild recesses can be obtained. There, lofty mountains covered by naked rocks or brown heath, frowning precipices unsoftened by the hand of time, narrow gorges where the river foams through its rugged bed worn in the solid rock, wide straths where the torrent slumbers for a while in some deep dark lake, and bleak moors only diversified by the moss-gray stones or solitary tarn, form the leading features of the scene. Here man and his labours seem like intruders on the solitude of nature.

"These three regions, so strikingly diversified in their scenery and structure, correspond with the divisions adopted in this work. The first district is the Southern, or Transition, extending from the English border to the northern basis of the southern mountain-land, embracing especially the basins of the Tweed and Solway. The second, the Central or Secondary Region, comprises the wide trough-like valley lying between the base of the southern and that of the northern mountains, or the basins of the Friths of Forth, Tay, and Clyde, the sources of these rivers being all in the two other divisions. The third is the Northern or Primary Region, embracing all the north and west of the country, and composed especially of the crystalline schists, with granite and other igneous rocks. The islands on the north and west form rather an appendix to this than a separate division, though containing some very recent secondary formations."

"In contrasting Scotland with England two points of difference immediately appear. These are the great prevalence of the igneous and crystalline rocks, and the almost total want of the more recent secondary and tertiary formations. The estimate above makes the granite in Scotland 1760 miles; in England it is under 300, or about 2000 in all; whilst the trap in both countries will exceed 3000 square miles, or 5000 miles of igneous formations, that is, about a seventeenth of the whole surface. The larger portion of these, however, belong to Scotland, of which they form more than a seventh, whereas in England they do not much exceed a hundredth part. In Scotland also the metamorphic rocks, excluding the whole clay-slate, amount to more than 13,600 square miles, or nearly one-half the surface, whereas in England they are only about 600 square miles, or little more than a hundredth part. On the other hand, the oolite, and formations more recent than the carboniferous epoch, which in Scotland are perhaps overrated at sixty square miles, in England cover about two-thirds of the country."

## PART III.—PERISCOPE.

## SURGERY.

*Amputation of the Leg for Caries of the Bones of the Foot, after Chopart's Operation; with Reflections.* By Dr STANSKI.

FROM a recent number of the Gazette Médicale we translate the following article, which may suggest some important considerations to the operating surgeon.

In the month of July 1843, there was read before the Academy of Medicine by M. Laborie a memoir ON THE RELATIVE VALUE OF PARTIAL AMPUTATIONS OF THE FOOT. The author speaks in this memoir, amongst other important observations, of a patient who underwent in the hospitals several very severe operations for the same disease, and the result of which has not been so fortunate as M. Laborie thought they would be beforehand. Having attended this patient for several years, I will relate the case, at least briefly, as far as concerns the facts related in the above cited memoir, insisting more especially on the results which may be deduced from the amputation of the leg, which I was obliged to perform upon this patient last November, and which presents a great interest in a practical point of view.

*Case.*—Poncet Pierrette, æt. forty-seven, enjoyed in general very good health, except during her infancy she was feeble and delicate, as infants of a lymphatic constitution usually are. She menstruated at the age of fifteen, at the end of a severe disorder, which, according to her account, would seem to have been typhus fever.

From that period she was always healthy. She married at the age of twenty-five, and had several children, who were all healthy, except her eldest son, whom I attended for Pott's disease, which has been checked by bitters, and cauteries applied on the sides of the vertebral column, and now there only remains a large twist of the spine in the dorsal region, a difficulty in breathing, and great debility in the lower extremities.

The patient states, that at the beginning of 1836 she made a false step; after this accident, her foot swelled, became painful, and in spite of all the treatment which she pursued, abscesses formed, opened, and remained fistulous. When I was called in to attend the patient in 1839, I found her left foot filled with openings, from which there escaped a large quantity of pus; the slightest movement was very painful; the patient had nocturnal sweats, a continual fever with exacerbations in the evening, a hollow fatiguing cough, an abundant expectoration, and a very considerable wasting away; in short, all the rational signs of phthisis; but neither auscultation nor percussion furnished any evident sign of the presence of tubercles in the lungs.

After having carefully examined the state of the patient, my opinion was, that there was no other means of cure but by amputating the leg, and I advised the woman Poncet to enter the hospital Cochin; she followed my advice, and was taken in there in the beginning of the month of June 1839.

M. Michon, hoping probably to preserve a part of the foot, did not think proper to remove the leg, but performed Chopart's amputation. The patient stood the operation very well, and the cicatrization being well advanced, she was dismissed a month after the operation was performed. By degrees the wound became completely cicatrized. The patient regained her former stoutness, and felt well, except that she could not support herself on her limb, which swelled and became very painful whenever she wished to make use of it. She experienced even during repose very severe pains in the stump. The muscles retracted and carried the heel up backwards; and four or five months after the wound had been closed, three abscesses formed anew in the cicatrix, opened successively, degenerated into inexhaustible fistulas, and forced the patient to keep her bed constantly.

In the month of February 1842, I advised the patient for a second time to go into the hospital; she entered immediately at St Louis, with the firm resolution of having the leg amputated. But M. Jobert, wishing doubtless to spare the patient the inconveniences of an artificial leg, was of a contrary opinion: he opened the cicatrix, removed a portion of the calcaneum which appeared to him to be diseased, and performed the subcutaneous division of the *tende achillis* in order to bring the foot to its normal position, but to this result he was not able to arrive completely, in spite of an appropriate bandage by means of which he maintained the foot in its natural position.

When the patient left the hospital, there still remained two or three small fistulas around the cicatrix, which never dried up, but continually oozed out pus, the quantity of which was considerably augmented when the patient wished to walk, even with crutches, for she has never been able to support herself on the limb operated on, even with a shoe fitted to the state of the foot. It (the foot) became red besides, swelled and became very painful on the least exercise, and the woman Poncet, after the two operations which she had undergone, was still condemned to keep her bed. At the same time, the heel turned by degrees still farther up behind, and the cicatrix, which was powerfully twitched about, became the sole of the foot; the leg in touching the ground was directly supported on it, which considerably increased the pain.

Notwithstanding, the patient kept her flesh, and enjoyed tolerable health; but she constantly wished to be freed of that portion of the foot which was the source of so much pain, and which prevented her from minding her affairs. I therefore amputated the leg above the ankle on the 21st November 1843, nearly two years after she was dismissed from the hospital of St Louis.

The operation and its consequences did not present any thing extraordinary; the wound united by the first intention; the ligatures did not come away till the 17th day, and by the 21st the wound was almost completely closed. At the present time the patient is in good health; she has no pain in the stump, and walks with one of Martin's artificial legs.

*Examination of the Amputated Portion of the Leg.*—After having carefully dissected the foot, it was found that the tendons of the muscles on the posterior region of the leg, viz. those of the *tibialis posticus*, *flexor longus pollicis*, and *flexor communis*, had a fixed insertion on the anterior part of the inferior surface of the calcaneum; the two tendons of the lateral peroneals were also attached to this bone, and as their point of deflexion (*poulie de sautoir*) formed by the posterior surface of the lower extremity of the tibia and the fibula is farther back than their insertion, by pulling these muscles a movement of extension can be given to the calcaneum and to the astra-



galus. The tendons of the *tibialis anticus* and *extensor communis* were inserted into the skin; consequently, this insertion being moveable, the tendons had no action upon the bones; there remained only the *extensor proprius pollicis*, which, being inserted into the upper border of the anterior articular surface of the astragalus, gave to this bone a very limited degree of flexion.

Almost the whole of that portion of the calcaneum which projects beyond the upper and outer articular surface had been removed by the operation at St Louis; however, there still remained a large portion both of this bone and of the astragalus, which was carious. The two bones were so much drawn backwards and upwards that the calcaneum touched the posterior border of the articular surface of the tibia. Lastly, besides the tendons of the posterior muscles of the leg, which drew the foot backwards, the calcaneum was also strongly extended by the posterior fibres of the lateral ligaments, more especially by those of the external, which were retracted, and formed as it were a very solid cord. The astragalus was dislocated forwards, and had escaped almost entirely from the pulley formed by the inferior extremities of the tibia and fibula, so that its anterior articular surface looked downwards. After all the posterior tendons had been relaxed, it was impossible to bring this bone back to its place, and to bring the calcaneum forward, which, as we have already said, was kept back by the external lateral ligament.

This case is remarkably interesting for several reasons. In the first place, we see how a patient affected with caries of the bones of a member may be reduced to a state of great feebleness and wasting away, and present all the rational symptoms of phthisis. We see also that when the limb has been operated on, and the source of the wasting away removed, not only that the state of the health may become better, but also that the patient may recover perfect health, provided always that we cannot discover by the stethoscope the presence of tubercles of the lungs; for then I think, from what I have observed in other cases, we would only hasten the term of the patient's life.

This case shows us that, in cases of caries of the spongy bones of the foot arising from an internal cause, we ought not to limit ourselves to partial amputations; for, putting aside the inconveniences which may result from these operations, and of which we will speak immediately, we see that by leaving the other bones of the foot in their place, we are so much the less certain that there will be no relapse, because we have no evident sign that the bones which we leave do not already bear the germ of the same disease, which sooner or later will terminate in abscesses and fistulas, for which it will be necessary to perform new operations, as occurred in this patient. M. Michon, after having distinctly recognised the seat and the extent of the disease at the time of the operation, performed Chopart's operation, wishing to enable the woman Poncet to avoid a mechanical leg, by means of a sub-malleolar amputation; he even had the satisfaction to see the wound cicatrize completely. But, unfortunately for the patient, besides not being able to make use of her limb on account of the intolerable pains which she experienced at each movement, she saw four or five months after new abscesses and new fistulas form around the cicatrix, and she found herself almost in the same position as before the operation. It is evident, besides, in this case, that neither the removal of a portion of the calcaneum, nor the sub-cutaneous section of the *tendo achillis*, did in any degree better locally the state of the patient; and that it was necessary to amputate the leg to relieve the patient of the continual pain,—to dry up the fistulas which were kept

open by the portions of the calcaneum and astragalus which were still diseased,—and, lastly, to enable the patient to quit her bed, which she had been forced to keep ever since she left the hospital of St Louis.

The examination of the amputated foot shows us that Chopart's amputation, far from being of service to the patients, is on the contrary rather injurious to them. For, in this operation, the bones of the tarsus, being disarticulated almost at a level with the anterior border of the articular pulley formed by the tibia and fibula, the tendons of the anterior muscles of the leg, even supposing that they took their point of attachment on the astragalus, act on the arm of a lever, so short in comparison with that on which the muscles on the posterior tibial region act, that they cannot in any degree counterbalance the action of these latter; and for the little that they are inserted into the skin, as occurred in this patient, all their action is lost as to the movements of the foot, whilst the tendons of the posterior muscles, being attached to the inferior surface and to the posterior extremity of the calcaneum, preserve all their action. It therefore results, that the fibres of the muscles in retracting carry up backwards the heel with force, favouring by this means the retraction of the ligaments and the aponeurotic fibres which are behind the tibio-tarsal articulation, and so drawing downwards the cicatrix of the stump, an inconvenience which prevents the patient from resting on the foot, and which cannot be effectually remedied by any mechanical shoe, nor even by the section of the tendo achillis. The reason will be the more easily understood, if the description of the autopsy of the foot which we have given above be read attentively.

And, indeed, it may have been remarked that, after the division of the tendo achillis, there remained still the tendons of the deep muscles of this region to oppose a resistance; but that which opposed the greatest obstacle to the foot being brought to its natural position was the posterior fibres of the external lateral ligament, which were strongly retracted and maintained powerfully the foot extended, although all the muscles were relaxed. Consequently, to have brought back the foot to its position, it would have been necessary, not only to divide the tendons of all the muscles on the posterior region of the leg, but still, and perhaps more than all, the posterior fibres of the external lateral ligament, to replace the astragalus in the articular pulley of the tibia and fibula from which it had escaped, and to maintain it there in spite of its great tendency to quit its position.—*Gazette Médicale*, 17 Août 1844.

## MATERIA MEDICA AND DIETETICS.

### *Lane on the Use of Oxide of Silver instead of the Nitrate of Silver.*

ACCORDING to Lane, the oxide of silver possesses all the medicinal effects of the nitrate without the serious inconvenience of blackening the skin by its internal use. The dose is half a grain made into two pills, two or three times a-day. He has not carried it beyond six grains.

### *Chemical Analysis of Coffee.*

DR. ROCHLEDER has published an elaborate memoir on the chemical analysis of coffee in the "Annalen der Chemie und Pharmacie," vol. L. cah. 2, and a French translation of it is to be found in the "Journal de Pharmacie" for last September. Of this memoir we must content ourselves with the briefest possible notice. He says that none of the constituent principles of

coffee-seeds have been hitherto properly examined except its peculiar principle caffeine. Our earlier knowledge of this principle than of the other constituents of coffee-seeds he attributes to its tendency to assume the crystalline form, notwithstanding the small proportion in which it occurs.

The powder of coffee-seeds is deprived entirely of this principle by ether. From the ethereal solution it may be obtained with some pains in the form of white crystalline needles of silky lustre in feathery groups. Though our author traces out in other respects the parallel between the chemical constitution of coffee and that of tea, he does not distinctly express the belief entertained by some chemists of the identity of caffeine with theine, the peculiar principle in tea. He regards caffeine as belonging to the order of alkaloids.

The other principles which Rochleder has examined, besides caffeine, in coffee, are vegetable fibre, fatty matter, and leguminine. Vegetable fibre, which seems to be identical with lignine, makes up the largest proportion of coffee, offering a matrix for the deposit of the other constituents. After the extraction of the other constituents by appropriate solvents, this vegetable fibre or lignine is the residue.

The fatty matter is dissolved out, along with the caffeine, by ether. Our author denies the statement of Robiquet, that the ether here takes up resin along with the fatty matter. He affirms that there is no resin in coffee. The ether, however, dissolves several substances besides the fatty matter. By means of portions of water successively added, all these substances are removed, except the fatty matter and a very minute portion of a sulphureted body, which is recognised merely by the black colour given to a silver vessel when the saponification of the fatty matter is afterwards practised in such a vessel. The fatty mass obtained from the ether is a solid butter, containing a very minute proportion of a fluid fat.

The leguminine exists in considerable proportion in coffee, but can be obtained in a state of purity in very small proportion. In this small proportion it is extracted by pure water, the leguminine being thrown down from the water by acetic acid. It is obtained more abundantly, but in a less pure state, by acting on coffee with a solution of carbonate of potass. Lime appears to be contained in coffee, and the sparing solubility of the leguminine must arise from its combination with that base. The smell of burnt horn, which arises when coffee-beans are roasted too much, depends on the presence of leguminine.

Leguminine and caffeine are the only azotized principles of coffee, and the only nutritive parts of this element. But the leguminine does not appear to exist in the infusion of the roasted seeds, at least acetic acid does not disturb the clearness of the infusion. The decoction unequivocally contains leguminine. On the presence of leguminine depends also the susceptibility of coffee-beans to fermentation.

Our author regards the composition of coffee as very peculiar; an alkaloid, an acid analogous to those found in the genus *quercus* and *cinchona*, the butter of the palm, and the sulphuro-azotized principle of the leguminosæ. He promises a second memoir on the subject.

## PATHOLOGY AND PRACTICE OF MEDICINE.

### *Perityphlitis.*

IN the Third No. of this Journal was inserted a paper on this disease by one of the Editors, which we see has been reprinted in an abridged form in the *Medico-Chirurgical Review*. In the recent work on diseases of the

intestinal canal, of Professor Puchelt of Heidelberg, the disease is fully described, as we find from a critical notice of that work in the *British and Foreign Medical Review* for October.

Puchelt describes it as commencing by indisposition of a few days' duration, followed by pungent pain of the abdomen; at first wandering, but before twenty-four hours have elapsed becoming fixed in the right iliac region. Here a tumour, at first elastic, afterwards hard, may be felt. Sometimes it extends to the urinary bladder, when the urine becomes high coloured and scalding. The disease terminates either by treatment, crisis, or suppuration. When an abscess forms, it may escape externally or by the cæcum—more rarely by the urinary bladder or uterus.

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*Dr Addison on Induration of the Lungs.*

Dr A. recognises three varieties :—1st, The uniform albuminous induration; 2d, The granular induration; 3d, The gray induration.

The first is the least frequent. The whole affected part of the lung is converted into a uniform homogeneous, semi-transparent, or opaque yellowish substance, in which the cellular structure and interlobular tissue are equally lost.

In the second variety, the parietes of the cells remain unaffected; but the cells are filled with a solid pale, or yellowish and friable albuminous matter. This is the state often denominated inflammatory tubercle.

The third results from the presence of permanent albuminous deposit, obstructed cells, and black pulmonary matter. It presents the appearance of a mixture of dull, or yellowish white and black matter in variable proportions, the density increasing with the darkness of colour.—*Guy's Hospital Reports, 2d Series, No. 2.*

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TREATMENT OF DISEASE.

*Cure of Tape-worm.*—Professor Wawruch (See Br. and For. Med. Rev. for Oct.) divides his treatment into three stages, preparatory, curative, and after-treatment. For three days the patient's diet is restricted to a little mild soup several times a-day, during which time he takes the following medicine :—

R. Radicis cichorei,  
— taraxaci, aa ʒi.

Coque in suff. quant. aquæ per mediam horam, colaturæ fortiter expressæ unciarum sex adde

Salis ammoniaci depur., ʒi.  
Syrupi cichorei c. rheo, ʒss.

Detur usui. Signet. Two table-spoonfuls to be taken every two hours.

On the evening previous to the commencement of the treatment the patient must eat rich panado, made of bread crumb, water, and several ounces of butter, and have, within the space of an hour or two, three or four enemata, made of equal parts of linseed tea, milk, and oil. This is to be repeated on the following morning. To this preliminary treatment Dr W. attaches great importance.

The destruction of the worm is effected by castor-oil and the powder of the male fern taken every half-hour alternately, of the former two table-spoonfuls, of the latter a scruple is the dose. The treatment is begun at 8 A.M. with castor-oil; the third and last dose of the fern is taken about

10½ A.M. The patient is then allowed to rest till 1 P.M., when the following powder is exhibited :—

R. Calomelanos.  
Pulv. gambog.  
Sacchari alb. aa gr. vi.—M. ft. tal. iii.

Sign. A powder to be taken at one, three, and five, afternoon.

To prevent nausea, candied orange-peel must be chewed during the exhibition of the remedies. Should the first or second dose of the purgative expel the worm, the remaining doses are not to be exhibited.—*Praktische monographie der bandwurmkrantheit durch zweihundert sechs krankheitsfälle erläutert. Von Dr A. J. Wawruch.*

*Best Means of preventing the Marks of Small-Pox.*—The recent experiments of Coppen show, that common mercurial ointment applied to the papulæ of small-pox on their first appearance prevent their suppuration, and cause them speedily to contract and fall off. But the *emplastrum Vigo*\* arrests the eruption altogether.

*Treatment of the Itch in Belgium.*—The following treatment is adopted in the Belgian army :—The patient is to rub in slowly into the affected part about an ounce of the following mixture three times in the twenty-four hours. He is also to take a bath every alternate day on which the rubbing is to be suspended. Fifteen frictions are usually sufficient for the cure. Take of sublimed sulphur, 16 lbs.; quicklime, 30 lbs.; boil in 80 lbs. of water for three quarters of an hour; let the mixture settle, then draw off the clear fluid; boil the residue afresh in the same quantity of water, treat it in a similar manner, and add the two decoctions.

*M. Casenave's Treatment of Alopecia.*—Where it depends on eruptions of the scalp, these must be removed by appropriate applications. Where it depends on deficient secretion, repeated shaving produces a beneficial local excitement, and renders the function of secretion more active. When it results from weakness after tedious diseases, the restoration of the general health and dry rubbing of the scalp must be trusted to.

Where the colour of the scalp is destroyed, as in vitiligo and porrigo decalvans, stimulating ointments, which are injurious in other cases, must be used. Where it has resulted from syphilis, mercury or the hydriodate of potass must be used.

Where inflammatory eruptions of the scalp are present, all stimulant local applications should be avoided; after inflammation is removed an ointment composed of borax and lard may be employed, with a weak alkaline solution.—*Annales des Maladies de la Peau.*

\* As the emp. ammon. c. hydrargyro is usually substituted in this country for Vigo's plaster, to which it is inferior, we subjoin the formula of the latter.

R. Hydrargyri, . . . . . 95 partes.  
Styracis liquidæ, . . . . . 48 "

Kill the globules, then add it to the following ingredients, which have been previously well mixed together :

Emp. plumbi, . . . . . 312 partes.  
Cera flavæ, . . . . . 16 "  
Terebinthinæ puræ, . . . . . 16 "  
Picis Burgund., . . . . . 16 "  
Gumm. ammon., . . . . . 10 "  
Olibani, . . . . . 5 "  
Myrrhæ, . . . . . 5 "  
Croci pulv., . . . . . 3 "

We extract the following formulæ from Dr Debreyne's work on chronic diseases, reviewed in the October number of the *Medico-Chirurgical Review* :—

*Epilepsy*.—Where disease is idiopathic, and no symptoms of cerebral congestion, *extract of belladonna*, beginning with two grains, and raising the dose gradually to four or five grains in the day; oxide of zinc, nitrate of silver, and valerian, may occasionally be with advantage conjoined with it. Where it is preceded by the "aura," a strong dose of aq. ammoniæ will sometimes ward off the attack.

*Hysteria, Chorea, and Nervous Tremor.*

R. P. camphoræ

P. assafoetid. aa ʒss.

Ext. belladonnæ, ℥iv.

— aq. opii, ℥i.—M. et divide in pill. cxx.

Commence with two in the day at first, and gradually increase the dose to six in the twenty-four hours.

*Neuralgia.*

R. Ext. belladonnæ

Adipis suill., aa ʒss.

Opii, ℥ii.

Olei thymi, gtt. vi.—M.

A portion the size of a nutmeg is to be rubbed into the affected part for eight or ten minutes at a time, two or three times a-day, or whenever the paroxysms are severe. In very obstinate cases belladonna may be given internally.

*Asthma.*

R. Pulv. inulæ helenii

Flor. sulphuris, aa ʒss.

P. rad. belladonnæ, ℥iv.

— — scillæ, ʒi.

Kerm. min., ℥i.—M. Divide in pulv. xc.

One to be taken three times a-day.

*Nervous or Spasmodic Vomiting*.—When unconnected with inflammatory or bilious disturbance, colomba bark in doses of gr. xv.—℥i. in two or three spoonfuls of red wine before meals. If the patient is feeble and anæmic, the subcarbonate of iron may be combined with it; if acidity or gastralgia be present, a few grains of magnesia or a minute dose of opium may be added.

*Gastralgia which resists Leeching*.—Opium in a mucilaginous mixture, followed by a violent blister.

R. Aquæ lactucæ, ʒviii.

Laudani Sydenham., gtt. L.

Gum. arabic., ʒvi.

Syrupi, ʒii.

Bicarb. sodæ, ℥ii.—M.

A table-spoonful or two to be taken twice or thrice a-day.

*Atony of the Digestive Organs with Leucorrhœa.*

R. Ferri subcarb.

Pulv. nucis anacard. (cashew), aa ʒiv.

Pulv. aloes, ʒi.

Terebin. venet., q. s. ut ft. pill. cxx.

*Dose*, One or two to be taken along with some bitter tincture or infusion twice or thrice a-day.

*Dropsy.*

R. Rad. jalap. contus.

— scillæ, aa ʒii.ss.

Nit. potassæ, ʒv.

Vini alb. lb. i.

*Dose*, One to three table-spoonfuls thrice daily to produce six or eight alvine evacuations in the twenty-four hours. Where patients object to the above, or it seems to disagree, the following is used.

R. Pulv. digitalis, ʒss.

— scammon., ʒii.

— scillæ, ʒii.

Ext. juniperi, q. s. ut ft. pill. cxx.

*Dose*, One or two pills three times a-day, washing them down with three or four spoonfuls of white wine, in a bottle of which half an ounce of nitre has been dissolved.

## MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

*Varicose Tumour of the Neck of the Uterus obstructing Parturition.*

By Dr PELLEGRINI.

Dr P. was called to visit a female, æt. thirty, who had been twice previously delivered without difficulty : she was of delicate constitution, and lymphatic temperament : she had been one entire day in labour, and the foetal head had been several hours at the external orifice, without advancing. The midwife who had been in attendance stated, that the passage of the head was prevented by a tumour lying in its course, and which, though at first small, had become gradually larger until it attained the size of a fist. The uterine contractions had recurred with vigour, and the head had descended pushing before it the tumour, which again retrograded immediately that the uterine contraction ceased.

On examination Dr P. found that this tumour was the sole cause of the detention of the head, that it was hard, somewhat elastic, smooth on its surface, dark red in colour, and pyriform in shape ; it had a pedicle about the size of the finger, which passed deep under the pubic arch and was without pulsation. At first sight Dr P. took the tumour for a polypus, gorged with blood in consequence of the strangulation of its pedicle between the head and the pubic bones. As it seemed impossible to push back the head as is generally recommended, Dr P. resolved to cut away the tumour ; when, however, he reflected that its nature was unknown to him, that it might be either a vascular tumour, or a hernia of the vagina, he determined to terminate the labour by means of forceps, and to wait for subsequent examination to prove its nature. He accordingly encircled it with a ligature, raised it gently over the pubes, and intrusting it to

the midwife, he then succeeded without much difficulty in applying forceps and completing the delivery. The tumour was then left to itself, when it remained suspended between the labia majora; some minutes afterwards he renewed his examination, in order to determine what further steps ought to be taken with regard to it, when to his great surprise he found that it had lost a third of its volume, and had become soft and fluctuating. The pedicle was traced up to the uterine orifice, and its base was found to occupy part of the neck and the whole of the anterior lip of the os uteri. Dr P. then began to suspect that the tumour might be a varicose vein of the neck of the uterus, which, pushed before the head, and elongated by the strong pressure that it had undergone, had swelled in such a manner as to form a hard tumour which might easily have been mistaken for a polypus. This suspicion was changed to a certainty, when it was found four days after delivery that the tumour had entirely disappeared, and that in its place there could be felt merely a slight swelling occupying the anterior portions of the cervix and os tincæ: this swelling was no other than a real varix, recognizable by its softness, elasticity, and the smooth appearance of its surface. A year and a half subsequently the patient was again confined, the same tumour again preceded the foetal head; but as it was only half the size of what it was on the former occasion, it presented no obstacle to the delivery, which was rapidly completed, without any artificial assistance, and with a successful issue. A year after this latter delivery, Dr P. examined the female, and could still trace the varix on the os tincæ.—*Annali Universali di Med. Guigno, 1844.*

#### *Treatment of Vesico-Vaginal Fistulæ.*

M. BERTHET reported to the academy the result of three cases, in which he had successfully treated vesico-vaginal fistulæ by means of cauterization and inflating the bladder with air. His procedure consists in blowing into the bladder incessantly during the entire operation, making the fistula to project, and separating its edges in the vagina. He then, by means of the cautery at white heat, renews the edges of the opening; afterwards, with occasional applications of nitrate of silver, and plugging with carded cotton, placed by aid of the speculum, he completes the surgical treatment. Together with these, M. B. combines a most rigorous regimen, for the purpose of diminishing as far as possible the secretion of urine; he allows to the patient only a few spoonfuls of drink at distant intervals, with a very small quantity of bread and roast beef.—*Acad. Roy. de Méd., séance 9 Juillet 1844.*

*On the Temperature of Infants in Physiological and Pathological States.* By M. ROGER. *Seances de l'Academie des Sciences, December 26, 1843.*

From numerous observations M. R. ascertained, that during infancy the natural temperature ranges from 96° to 102° Fahr.; during disease it exhibits an oscillation of 34°, varying from 74·3° to 108·5° Fahr., according to the nature of the malady. M. R. hence divides diseases into three groups, viz.:—1st, Those in which the temperature is increased; 2d, Those in which the temperature is natural; and, 3d, Those in which it is diminished. In the first division are comprehended all fevers and inflammatory affections, in all of which the increase of temperature is one of the most constant signs. It is a remarkable fact, however, that it is not in the inflammatory forms that the temperature is highest, but in the typhoid fevers. Indeed the chief feature of even the mildest form of typhoid fever is the evolution



of caloric to a great extent. In the second division are included dropsies, tubercular diseases, rickets, hooping-cough, &c. ; and in the third, œdema, &c. M. R. remarks, that if the temperature range from  $104^{\circ}$  to  $105.4^{\circ}$  of Fahr., with marked acceleration of pulse and respiration, we may with perfect safety conclude that there exists pneumonic inflammation.

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*On the Causes which determine the Sex in Generation.* By M. Moreau, (L'Experience, 4th July 1844).

MANY facts have tended to prove that, in the act of generation, it is the individual who is the strongest who regulates the sex of the progeny. M. M., from long observation, has not only arrived at this conclusion, but thinks that, to a certain extent, a male or female child may be procreated at will by weakening or strengthening the father or mother previous to the act of generation. M. M. states that, acting on this rule, he has seen in numerous cases his advice followed by the desired effect.

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*Ligature of one of the Heads of a Bicephalous Fœtus.* By Dr BUHRING. *Casper's Wochenschrift für die Gesamnte Heilkunde, March 1844.*

ON the 31st October 1843, Dr B. was called by a peasant of the village of Kleinow to remove a tumour from the head of his child, just born. The infant was eighteen hours old, and had a large shapeless tumour, covered with hair, attached to the posterior part of the head. On this tumour were traces of a nose, with depressions for the eyes and mouth, a kind of elastic semi-cartilage instead of bone, and a regular hairy scalp. At the posterior part of this evidently supernumerary but ill developed head, there projected a small red tumour, with distinct fluctuations. Dr B. made an incision into this fluctuating tumour, when a quantity of clear serous fluid escaped ; and the wound being enlarged, allowed him to discover that the imperfectly developed supernumerary head contained a small brain with two distinct hemispheres, the convolutions of which were distinctly marked, and which were separated from each other by a falciform process. Notwithstanding this discovery, he determined to remove the supernumerary head by ligature, as it seemed only to be connected with the proper head by soft parts. A strong waxed ligature was therefore passed around it, and it was observed that, in proportion as it was tightened, the respiration, previously easy, became painful and hurried, the pulse more frequent, the pupils of the eyes dilated, the vessels of the true face and scalp strongly injected with blood, and the jugular vein was much distended. This last vein was opened, therefore, before the ligature was drawn to its full tightness, and three ounces of blood allowed to flow, after which all the disagreeable symptoms disappeared, except trifling dyspnœa and slight irregular movements of the limbs. After this the child freely took the breast, remained quiet, and fell asleep for two hours ; but the next day he died. The supernumerary head did not communicate with the other by medullary matter, but only by means of nerves, blood-vessels, and a prolongation of the *dura mater*. The brain consisted of two hemispheres, a *pons Varolii*, and the commissure ; the *crura cerebri* and all the other parts at the base of the brain were wanting. It was covered by the usual membranous envelopes.

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*Case of Deformed Pelvis—Cæsarian Operation.* By Mr Cox of Welford.

MR Cox was called, on the 8th inst., at 5 P. M. to attend in labour an unmarried woman, æt. twenty-seven, pregnant for the first time. She had

experienced strong pains since noon; and when he saw her, the uterine contractions were strong, regular, and occurring about every five minutes; the membranes were ruptured, and much liquor amnii had escaped. "On examination," says Mr C., "I found the vagina well lubricated, soft, and easily distensible. On passing my fingers into the pelvis, I met with a large round substance which I at first took for the child's head, but soon discovered to be the promontory of the sacrum, occupying the greater part of the pelvis. With a great deal of difficulty, I succeeded in getting the fore finger of my left hand over the pubes, and ascertained the child's head to be presenting. I was alarmed at finding I could but just pass two fingers between the sacrum and pubes, or, in other words, to find the antero-posterior diameter of the pelvis to be about an inch and a half." In this condition, although consultations were held, the unfortunate woman was left until 11 A.M. next day. Her medical attendant, knowing that the antero-posterior diameter of her pelvis was only one inch and a half, left her in labour for *eighteen hours*, without attempting any thing for her relief! "Craniotomy was then performed in the usual manner;" and, continues Mr C., "after between two or three hours of almost incessant labour, we painfully felt that our efforts had been useless, as, after crushing the head, we could not cause the advance of the rest in the smallest degree." The patient's pulse was now fluttering and feeble, and she exhibited symptoms of exhaustion. Cæsarian section was then performed without any thing remarkable attending the operation. The patient died fifty-four hours afterwards apparently of peritonitis.

On examining the body, "the promontory of the sacrum with the lower lumbar vertebræ arched forward so as to overhang the pelvis, and fill the greater portion of its space. The space between the sacrum and the symphysis pubis was from one inch and three-eighths to one inch and a half."—*Provincial Med. and Surg. Journal*, No. 25, 1844.

## FORENSIC MEDICINE AND MEDICAL POLICE.

### *Arsenic in the Earth of Cemeteries.*

M. OLLIVIER reported to the Academy a fact in support of a statement made two years previously by Orfila, viz., that as arsenic is insoluble in water it is impossible that a body interred in a soil containing that metal can become impregnated with it. The facts were as follows:—A man whose wife had died, was accused by public rumour of having poisoned her. *Post mortem* examination, however, showed, that she had died of disease unconnected with poisoning. But a woman, with the intention of marrying the man above mentioned, poisoned her husband. On the examination of this latter body, evident traces of arsenic were found. A difference of results among the experimenters caused the affair to be farther investigated; a new exhumation of the body of the man was ordered, and the viscera, along with some of the earth of the grave which had been found to contain arsenic were sent to Paris for analysis. Marsh's apparatus gave indisputable proofs of arsenic being present in the liver. The body of the female previously referred to was ordered to be exhumed, and although it had lain for several months in a soil known to be arsenical, no trace of the metal could be detected on analysis.—*Acad. Roy. de Med., seance, 16 Juillet 1844.*

### *Poisoning by Cantharides.*

A MAN, about forty-five years of age, who had for some time laboured under paralysis and insanity, swallowed by mistake about half an ounce of can-

tharides plaster containing not quite two drachms of the powdered fly. In less than a quarter of an hour the error was discovered, and an emetic being exhibited, the greater portion of the powder was vomited, involved in much glairy mucus. In two hours and a half, the lips and the mucous membrane of the mouth were become red and spotted with numerous small blisters. In seven hours, coldness of the body came on, and the pulse was scarcely perceptible. He partially rallied, but afterwards gradually sunk with all the symptoms of exhaustion, twenty-four hours after taking the poison. During life no erection of the penis was observed, but the organ was livid, and the urine was passed mixed with blood.

On dissection, the vessels of the brain were found gorged with blood, and the ventricles and spaces between the convolutions filled with serum; the substance of the organ being injected and softened. The inner coat of the stomach was covered with red spots, and marked here and there with ecchymosis, in the centre of which were seen adherent scales of the cantharides. The intestines were healthy; the kidneys were intensely red, gorged with blood, and somewhat granular; the inner surface of the left ureter was of a deep red tinge, the bladder was considerably thickened, and the mucous tunic injected with blood.—*Giornale delle Scienze de Medi Torino Giugno, 1844.*

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## PART IV.—MEDICAL MEMORANDA.

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WE have been favoured with copies of the resolutions relative to the Medical Reform Bill, passed respectively by the two Royal Colleges in Scotland, which we willingly lay before our readers.

*Resolutions relative to the Bill for the better Regulation of Medical Practice, adopted by the Royal College of Physicians of Edinburgh, at an Extraordinary Meeting, held on 11th October 1844.*

1st, That the College testify their satisfaction that the bill for the better regulation of Medical Education and Practice, so long expected, has at length been laid before the House of Commons, and has had a first reading.

2d, That this satisfaction has been increased by the knowledge, that the two great principles of the measure, viz. a uniform standard of education and qualification, and the abolition of all local privileges, are those for the recognition of which the College have on various occasions contended, and expressed the same opinion in petition to the legislature.

3d, That the principles now specified, if carried fully into effect, would confer a great benefit on the profession and the public, and would remove the evils and remedy the abuses now existing, and of which, for a long time past, there has been too good reason to complain.

4th, That in thus providing the public with a supply of fully qualified general practitioners, the College are of opinion that government is undertaking all that can be properly attempted by legislative interference.

5th, That the College have, with regret, observed that the part of the bill which proposes to abolish the practice of prosecuting unlicensed and unqualified practitioners, has given rise to great alarm and a good deal of opposition. The College are inclined to doubt the practicability of restraining unlicensed practice by penal enactments, or the expediency of attempting to do so by such means, and in this view they are strengthened by the fact, that such powers, although vested in some of the public bodies in

Scotland, have for many years been allowed to lie dormant without any practical inconvenience. But notwithstanding that these are the sentiments of the College, yet, if it shall appear that it is the desire of a large proportion of the intelligent members of the profession to attempt to restrain such practitioners by penal enactments,—rather than endanger the final success of a measure otherwise so beneficial, the College are disposed not to urge strongly their own opinions on this head.

6th, That while the College approve most cordially of the general spirit and principles of the bill, they allow that in various details it may be desirable to introduce certain changes and modifications not affecting its principles or leading details, and which, so far from impairing the efficacy of the measure, would tend materially to facilitate its practical application.

7th, That the best thanks of the College be conveyed to Sir James Graham for the trouble and attention which he has bestowed in the preparation of this bill, accompanied by a copy of the foregoing resolutions, and an expression of the hope entertained by the College, that the measure may be, at an early period of the ensuing session of parliament, brought under the consideration of the legislature, and finally passed into a law.

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*Report by the Royal College of Surgeons of Edinburgh on "A Bill for the better Regulation of Medical Practice throughout the United Kingdom." (Approved of, 4th October 1844.)*

THE Royal College of Surgeons of Edinburgh have observed with the greatest satisfaction that the grievous impediments to the practice of the healing art, arising from the faulty state of the laws affecting the medical profession, of which the College have so long unavailingly complained, have engaged the attention of Her Majesty's advisers; and that a legislative remedy, proposed by them, has been read a first time in parliament, and has been printed for the information of all who take an interest in the subject of it.

It is satisfactory to the College to discover, that the proposed bill is based on the great general principles which they have so repeatedly urged upon the legislature as being of paramount importance and necessity—viz. uniformity and sufficiency in the amount of education required of candidates for medical qualifications; uniformity and sufficiency in the strictness of the examinations to which such candidates are subjected; and uniformity in the privileges to which successful candidates are introduced, in whatever division of the United Kingdom their education and their qualifications may happen to have been acquired.

It is also a leading and a most important principle of the bill to give to the persons thus qualified the advantage of exclusive eligibility to medical offices in hospitals and other public institutions, and to give to the public the advantage of knowing what practitioners are qualified, by the registration and publication of their names at stated periods.

It is the opinion of this Royal College that no measure of medical reform ought to be satisfactory, either to the profession or to the public, which does not embrace all these general principles, and which does not utterly abrogate those partial and exclusive rights of medical incorporations, which, in certain parts of the United Kingdom, have operated so injuriously as impediments to the selection, by the public, of well-educated medical men for the performance of professional duties for which they would otherwise have been preferred.

The College regret to find that the proposed bill has been objected to by many respectable medical men, on account of its not containing provisions for restraining unqualified persons, by penalties, from practising the profession. The College consider this matter to be subordinate in importance to the great leading features of the bill already alluded to, that neither of the two opposite views of it ought to be urged in such a way as to endanger the measure. On the point itself the College have seen no cause to alter an opinion which they expressed *unanimously*, in a report which they published four years ago; an opinion upon which they have uniformly acted for a very long term of years, "that prosecutions will be 'found to fail in accomplishing the object proposed,' that 'they may render the unqualified more cautious in practising on public credulity, without making them less successful;'" that they may even impart to their pretensions a degree of fame and of importance, which those pretensions would never acquire without such assistance, and that "they may have an unfavourable impression on the character of the qualified, who will be more likely to stand well with the unprofessional part of the public if they have the magnanimity to despise this species of artificial protection, and to rest their claims to public confidence solely upon their professional talents and qualifications." In this view the College find themselves fortified by the concurrence of Sir James Graham, of Mr Warburton, and of most of those members of parliament who have given attention to the subject. The College trust that the arguments on both sides will be dispassionately considered by the committee on the bill, by whose decision, whatever it may be, they are perfectly willing to abide.

The College farther resolved,

1st, That the Medical Reform Committee be authorized to give every possible assistance, by petition or otherwise, to the passing of the bill of Sir James Graham, with such alterations as may seem expedient, provided always that the great principles on which it is based are in no degree impaired by such alterations.

#### *Prescriptions.*

R. Tinct. sem. colchici, . . . . . ℥j.  
Tinct. opii, . . . . . ℥ij.

M. Sign. Forty drops three times a-day; to be gradually increased by three or four drops daily, and continued till it act on the bowels freely or induce nausea, when it is to be intermitted for one or two days, and then repeated as before. In rheumatic pains. The combination of opium with colchicum is also of the best effect in some of the other diseases in which colchicum is recommended.

R. Linimenti aquæ calcis, . . . . . ℥vi.  
Unguenti nitratis hydrargyri, . . . . . ℥j.

Tere simul. Sign. Liniment for chronic diseases of the skin, to be applied twice a-day, the part being well washed with warm water previous to each application.

R. Infusi quassiae, . . . . . ℥xi.  
Tinct. humuli lupuli, . . . . . ℥j.

M. One or two table-spoonfuls three times a-day. As a tonic and sedative in deranged digestion attended with anomalous pains of the stomach.

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PART I.—ORIGINAL ARTICLES.

*Excision of the Eyeball in Cases of Melanosis, Medullary Carcinoma, and Carcinoma; with Remarks.* By J. ARGYLL ROBERTSON, M.D., F.R.S.E., Lecturer on Surgery, &c. &c.

(Continued from our last Number, page 8.)

CARCINOMA MEDULLARE.

THIS disease is known under various names, as Carcinoma Medullare, Spongoid Inflammation, Fungus Hæmatodes, Encephaloid Tumour, &c. It is of the consistence of brain, varying in colour from that of brain to a deep reddish brown hue, according to the degree of its vascularity, or to blood being effused into its substance by the giving way of some of its vessels, and the blood being more or less decomposed. It consists of meshes of delicate fibres, in which the medullary matter is deposited.

That this disease is essentially of the same nature as cancer there can be little doubt, seeing that portions of the same tumour sometimes vary in consistence from the hardest scirrhus to that of brain, and that soft medullary growths are often met with after the removal of hard scirrhus tumours.

The soft consistence seems to be dependent in a great measure on the medullary matter being deposited in loose delicate tissue.

In five of the cases operated on, this medullary mass was deposited within the choroid, and occupied the situation of the vitreous humour. In two cases it was situated exterior to the eyeball.

This disease may occur at any age; when it affects the eye it is commonly in early life. Mr Wardrop states that in twenty-four instances, twenty of the patients were under twelve years of age; and on four of the cases operated on by me, the patients were under eight years of age.

Although every species of carcinoma (with the exception perhaps of colloid, which has been seen in the adult only), may

occur at any age, still the different species are not equally common at all periods of life. When the morbid growth shows itself in infancy or youth, it commonly assumes the medullary form. In youth, also, the eye, the lymphatic system, and the brain, are the organs more liable to its attacks; whereas it is rarely seen till after the middle period of life in the uterus, mamma, stomach, intestines, &c. &c. Although the medullary carcinoma is even more disposed than scirrhus to implicate all surrounding parts in the disease, the skin seems to be an exception. In scirrhus the skin becomes adherent at an early period to the tumour, and takes on the cancerous ulceration; whereas in medullary carcinoma the tumour often attains an enormous size before the skin becomes adherent to it; and even after it has given way, it is not disposed to assume the characters of the cancerous ulcer, the subsequent changes which take place being in a great measure limited to the medullary tumour itself, the neighbouring skin remaining almost unaffected.

The following are the appearances which first call attention in cases of medullary carcinoma within the eyeball. The pupil is dilated and irregular in form. In all the cases which I have had an opportunity of examining, its transverse diameter was the larger. (Figs. 8 and 12.) The iris is changed in colour and texture, being usually of a reddish yellow hue, more especially towards the pupillary margin, and much reduced in thickness. In the fundus of the eye is discovered a peculiar glistening metallic appearance, like light reflected from a brazen mirror. On minute examination it is discovered that this peculiar metallic lustre is dependent on the reflection of light through the humours of the eye from the surface of a tumour deposited in the bottom of that organ, over which can sometimes be traced branches of the *arteria centralis retinae*. In this condition the disease may remain stationary for months, or even for years.

The tumour at first enlarges slowly, afterwards its progress is more rapid. The vitreous humour is gradually absorbed to make room for its advancement. It then reaches the lens, which, with the iris, are pushed closely into contact with the cornea; the chambers of the aqueous humour being thus obliterated, and the lens usually rendered opaque, and concealing the tumour behind it. At this period the sclerotic assumes a bluish black tinge, which is owing to this membrane becoming thinner from absorption, and allowing the dark colour of the choroid to shine through it. The vessels of the conjunctiva are commonly enlarged and tortuous. It is said by many authors that in this disease the eyeball enlarges to two or three times its natural size. I have never witnessed this result. I think it probable that in most instances they have been deceived by an unnatural prominence being given to the eye by infiltration of the cellular tissue of the orbit projecting the eyeball forward, thus giving it

the appearance of being augmented in bulk. The sclerotic coat is by no means disposed to yield to distention, but readily gives way by absorption, as we daily see occurring in various dropsical affections of the eye.

The tumour now projects from the eyeball either through the sclerotic in the neighbourhood of the cornea, where it is thinnest and most readily yields to absorption, in which case it retains for a time a conjunctival covering, or the cornea inflames and sloughs or ulcerates, and thus affords room for the further increase of the diseased mass.

The tumour, now no longer confined by the membranes of the eye, enlarges rapidly, and projects from between the swollen eyelids upon the cheek. (Fig. 13.) In texture it is soft, spongy, and easily lacerated. Being supplied freely with blood-vessels, the coats of which are extremely delicate and readily ruptured, the tumour not only usually assumes a dark hue from blood effused into its texture, but profuse hemorrhage ensues from spontaneous rupture of these vessels, or on the application of the slightest mechanical irritation. Coagula of blood are often found in the interior of the mass. As the disease progresses, parts of the tumour slough, others ulcerate, and the patient sinks exhausted by suffering, discharge, and bleeding. Occasionally he is carried off by a sudden profuse hemorrhage. In some instances during the progress of the disease the absorbent glands over the parotid and those of the neck swell, and in them a similar medullary matter is deposited. Tumours of the same character are not unfrequently found in other parts of the body, more especially in the viscera of the abdomen and thorax.

An appearance in the eye dependent on a totally different cause, but resembling medullary carcinoma in its early stage, is occasionally met with. It is when either pure blood or fibrine is effused from the *arteria centralis retinæ* into the cells of the hyaloid membrane. When blood is effused, it presents at first, when viewed in a clear light, a bright scarlet hue; but in proportion as the colouring matter of the blood is absorbed, it exhibits the peculiar metallic glistening appearance which is seen in the malignant disease. This effusion of blood into the vitreous humour may occur spontaneously, or be the result of external injury. The red colour presented in the early stage, and the sudden occurrence of the affection, will point out the difference between it and the malignant tumour.

It is more difficult to form a diagnosis between cases of effusion of fibrine into the hyaloid membrane and the malignant tumour. In the instances of effusion of fibrine which I have witnessed, the metallic lustre, which must arise from the presence of an opaque reflecting substance deeply seated in the eye, was not so clearly marked as in the malignant disease, probably owing to the effusion being in the substance of and not posterior to the vitreous



humour; for it is found that, in proportion as the opaque reflecting body advances towards the cornea, it loses its metallic lustre. I have observed also, that, in the non-malignant affection, although the pupil was dilated, it was regular in form, and the texture and colour of the iris were not altered. In some instances, also, vision was not entirely lost, whereas, in malignant diseases, total blindness, I believe, always exists. I am at present attending a lady, twenty-six years of age, whose eye presents the lustrous metallic appearance. It is dependent on effusion of blood into the hyaloid membrane, which apparently was caused by a sudden fright. Instantaneous blindness of the affected eye followed. The effusion is gradually being absorbed, and she can now distinguish large objects. The pupil is fully but equally dilated, and there is no change in the colour or texture of the iris. The sclerotic retains its natural appearance, and no enlarged or tortuous vessels are seen on the conjunctiva. The importance of a correct diagnosis in such cases is sufficiently evident.

The operations which have been performed for the cure of the medullary carcinoma in the eye have almost, without exception, proved unsuccessful, the disease returning within the period of two years from the date of the operation. So great, indeed, has been the want of success, that it may almost be a question in how far we are justified in continuing to operate in this disease. In one case out of the five of excision for the cure of medullary carcinoma situated *within* the eyeball, the disease did not reappear. The patient, John Graham, fifty-six years of age (Fig. 16), in passing through a wood in the dark, received a severe blow in the right eye by running against a decayed branch of a tree. The blow was so severe that he fell to the ground insensible. He speedily recovered from this state, but vision was entirely lost in that eye, and has continued so ever since the accident. The inflammation which followed yielded to leeching and warm fomentations, and the eye recovered its original appearance, with the exception of a dilated state of the pupil. The accident occurred in the autumn of 1818; in the month of June 1824 he began to suffer from a feeling of fulness and distention of the eyeball, and an occasional throbbing pain in the temple and forehead. In August it was first observed that the pupil had assumed a yellowish metallic colour. In October the eyeball began to project from its socket. In January 1825 he placed himself under my care. On examining the eye the cornea was opaque, and the vessels of the conjunctiva enlarged and tortuous. The form of the eyeball was irregular, and the cornea much more conical than natural. On its centre was a deep ragged ulcer passing through all its laminæ, and the bottom of the ulcer was occupied by a soft pultaceous mass, through which the probe passed readily into the interior of the eyeball. His health was failing from constant suffering and

loss of appetite and sleep. The pain he described as occasionally of a burning, at other times of an excruciating lancinating character, extending to the temple and forehead, and sometimes to the occiput. On the 15th January 1825, I removed the contents of the orbit. On introducing my finger after the excision of the eyeball, to ascertain the condition of the parts, I found that the greater part of the orbital plate of the frontal bone had been absorbed, so that the finger lay in contact with the membranes of the brain,—a state showing the necessity of extreme caution in the use of the knife in cases of long standing and accompanied by much enlargement of the contents of the orbit. That the bone had not participated in the malignant disease, but that it had been removed by simple absorption, is sufficiently demonstrated by the favourable result of the case, and by all the parts removed exterior to the sclerotic being free from the disease.

This patient made a rapid recovery, without a single untoward symptom. In 1836, eleven years after the operation, he was in good health, since which time I have not heard of him. On making a section of the eyeball the following appearances presented themselves (Fig. 15):—

The whole of the eyeball was filled by a soft mass lying within the choroid; it was of an opaque white colour, and when submitted to the microscope presented all the characters of the carcinoma fasciculatum. There was no trace of the lens; the cornea was ulcerated at its centre, through which the tumour slightly protruded.

In all the other cases, as I have stated, the disease returned in the orbit, and in all presented the same appearances; the socket becoming filled by a soft medullary mass, accompanied by fetid discharge and more or less bleeding. Elizabeth Williamson died three months after the operation; Jane Macpherson lived five months; Peter Johnston, eleven months; and John Richardson, eight months.

#### SCIRRHUS.

*Scirrhus* is described by most authors on ophthalmology as in many instances originating in the eyeball itself, commencing with severe pain in the eye and head, followed by dimness of sight, and at last total blindness, the eyeball becoming indurated and misshapen, the sclerotic of a dirty yellow colour and irregularly prominent, and the superficial vessels enlarged and varicose. That the disease subsequently extends to the surrounding parts, the conjunctiva ulcerates, and the ulceration passes from one tissue to another. That on making a section of the eyeball after its removal, the sclerotic is found thickened, cartilaginous, and intersected with white bands, and the place of the vitreous humour occupied by a mass of a somewhat less firm consistence, and divided by similar membranous septa.

I have never met with this form of disease either in my own practice or in that of others. Indeed, I am disposed to think that the ordinary form of scirrhus is seen only in the lachrymal gland, cellular tissue, conjunctiva, and integuments of the eyelids. That the sclerotic not only does not give origin to scirrhus, but is remarkable for resisting cancerous infiltration from neighbouring parts, as is shown in cases in which carcinoma exists on each side of that membrane, it remaining untouched. We even find the sclerotic divided into two laminæ by carcinomatous matter, these laminæ remaining unaffected by the disease. When the carcinomatous deposit occurs in the interior of the eyeball, it is invariably of a soft medullary consistence.

Although in most instances of carcinoma there exists a constitutional disposition to the affection, yet there can be as little doubt that in many cases the disease is entirely local in its origin, and that the general system only subsequently becomes contaminated if it be allowed to proceed. This more particularly holds good in regard to the skin. Hence the numerous cases of perfect cure effected in carcinoma of the lip, when excision is had recourse to in an early stage. I believe that the operations for the cure of cancer of the eyelids would be equally successful with those performed on the lip, were they resorted to sufficiently early, and less care taken to save the surrounding parts to avoid the subsequent disfigurement. Much difficulty, however, is necessarily experienced in gaining the consent of the patient to a comparatively formidable operation for the cure of an apparently trivial disease.

The probability of success in operating will be greatest where no firm connexion has been formed between the diseased parts and the subjacent bone, where the constitution of the patient is otherwise good, and where the operator uses his knife with sufficient freedom. Again, where there is a strong constitutional disposition to the disease, often indicated by the appearance of the patient, when the disease commences without the application of any external cause, and where the surrounding tissues are adherent to the diseased part, the chances of success will necessarily be much lessened.

Scirrhus, in so far as I have had an opportunity of witnessing the disease, most frequently commences in the lower eyelid, at its margin, and generally near the external canthus. Why the lower eyelid and lower lip are more subject to scirrhus than the upper eyelid and upper lip, seeing they are so similar in structure and function, it is impossible for us in the present state of our knowledge to determine.

Scirrhus commonly first shows itself on the eyelid in the form of an indurated warty-looking excrescence, at other times in the form of a hard indurated swelling, of small size, usually of a dusky reddish brown hue, and resting on a broad firm basis ;

and in either of these conditions the disease, if not irritated, may remain for years. When irritated by being rubbed or scratched by the patient, or by the stimulating applications or the lancet of the surgeon, their progress becomes more rapid. They increase in bulk, a thin discharge takes place, which dries into a scab, under which ulceration proceeds, the scab falling off from time to time and being again renewed. The ulcer gradually enlarges, and the edges are usually elevated, hard, and jagged. Often there is a sensation of burning heat, and occasionally, though rarely, of lancinating pain. The indurated base extends in all directions, to which the ulceration slowly spreads. The discharge may be thin and offensive, or of a healthy purulent character, and occasionally tinged with blood. The eyelid is now found to be firmly attached to the subjacent periosteum and bone, and the diseased structure extends much beyond what is apparent to the eye. At this period it is said that large fungous excrescences, with profuse discharge and hemorrhage, occur. These I have not witnessed. We sometimes see a temporary cicatrization, but it does not present a healthy natural appearance, soon gives way, and the ulceration again proceeds in its course. The ulceration extends to the conjunctiva, which becomes firmly attached to the subjacent sclerotic; the cornea now inflames and ulcerates, the humours of the eye are discharged, and the globe now sinks in the socket, which presents a cavity overspread by the cancerous ulceration, the sclerotic coat generally remaining to the last (Fig. 20). The glands over the parotid and under the jaw seldom swell or take on the same malignant action. The discharge increases in quantity, at last the patient sinks exhausted, and often in a comatose state. Generally, but by no means invariably, the sufferings of the patient during the course of the disease are comparatively trifling. The progress of the ulcer is usually very slow, sometimes being of small extent even at the expiry of ten, fifteen, or twenty years from its commencement. In other cases it is more rapid, and makes extensive ravages, destroying all the soft parts within the orbit, and those of the cheeks and nose, and even communicating with the cavity of the mouth, presenting a most hideous aspect. (See Fig. 20.) Scirrhus in this situation, as has been justly remarked by Dr Jacob in his excellent essay (Dublin Hosp. Reports, vol. iv.), is seldom attended by lancinating pain, fungous growths, sloughs, hemorrhage, fetor, or swelling of the lymphatics.

In the treatment of this affection all local and constitutional remedies have failed in eradicating the disease, although many are useful as palliatives. I have not used escharotics or the caustery, believing them to cause infinitely more suffering to the patient and to be much less effectual than the knife. It will be seen by the tabular view, that I have operated in five cases of

carcinomatous affections of the orbital appendages. The three first presented the characters I have just described; in two of these a cure was effected, and in one the scirrhus returned.

In the first of these cases—that of James Grant, *æt.* sixty—the disease commenced twelve years previously, in the form of a small warty excrescence. Every kind of treatment, local and constitutional, had been tried in vain. At the period of operation there was an ulcer towards the external canthus occupying about one-third of the lower lid; at that part the tarsal cartilage had been destroyed, leaving a deep hollow through which the tears flowed and excoriated the cheek. The ulceration had extended to that part of the conjunctiva which covers the sclerotic, and almost reached the cornea. When he attempted to move the eye it had a peculiar almost rotatory motion, being bound down at the seat of the ulcer. In the early period of the disease little pain was experienced, but during the last three months his sufferings were from time to time very severe, owing to attacks of inflammation of the whole globe. The cornea was so opaque that the condition of the internal structure of the eye could not be ascertained. In compliance with the urgent request of the patient, I removed the eyeball and lower lid, carrying the incision some way down the cheek, so as to remove if possible all contaminated parts; and I scraped the periosteum from the bone at that part of the margin of the orbit seated beneath the ulcer. This patient made a perfect recovery. He visited me in perfect health four years after the operation was performed.

In the second case—John Williamson, *æt.* sixty-two—the disease was of four years' standing, and limited to the external half of the lower lid. The conjunctiva and globe were healthy. The eyelid at the seat of ulceration was firmly connected with the subjacent bone. I removed more than two-thirds of the eyelid and the periosteum, where it seemed to be connected with the disease. The parts assumed a healthy look, and granulation proceeded favourably during the first month; it then gradually resumed the cancerous character, and the patient refused to submit to further treatment.

In the third case—William Ross, *æt.* fifty—the disease was of three years' standing; the ulcer occupied about one-third of the eyelid, and was not attached to the bone. I excised about one-half of the eyelid, and the case proceeded favourably, and there has been no return of the disease.

The three following cases differ from each other and from the preceding in many important points:—

Mrs Walker, *æt.* sixty-two (Figs. 14 and 15), states that the left eye has been in a weak state since childhood, and that it has been the subject of repeated attacks of inflammation, but which always yielded to the usual remedies. About two years

ago she began to suffer from severe lancinating pains passing from the eye to the temple and occiput, and which have continued ever since. After the last attack of inflammation, about three years ago, a fleshy elevated ring formed round the cornea, and which remained stationary for about a year and a half; it then began slowly to enlarge, and has continued to advance in spite of leeches, blisters, mercurials, and every kind of lotion. The swelling appears to have proceeded from the margin of the cornea backwards, gradually projecting the eye from the socket. The transparency of the cornea and the functions of the retina remained unimpaired until about three months ago, when vision failed, the cornea becoming opaque, probably in consequence of the inflammation caused by the constant exposure of the eye to the air and light, the eyelids being no longer capable of closing over the eyeball, owing to its bulk, and the extent to which it was thrust forward. Her health and strength have latterly been failing under constant pain and want of sleep. After excision of the contents of the orbit she made a rapid recovery. She died from general decay, without any marked disease, twelve years after the performance of the operation.

Fig. 14 represents the appearance of the eye three months prior to the operation. The swelling continued to enlarge, and the eyeball to be farther projected from the socket. On making a transverse section of the eyeball after excision, its membranes and their contents were found perfectly healthy (Fig. 15). Exterior to the sclerotic, and under the conjunctiva, it was surrounded by a dense mass of medullary sarcoma, which, when subjected to the microscope, presented spherical cells.

Grizzel Syme, æt. fifty, states that twenty-two years ago a tumour about the size of a chestnut was removed from the orbit, under the frontal ridge, by Sir William Newbigging, and that in three weeks the wound was healed, the eye had regained its natural appearance, and the sight was good. About two years ago she observed the eye beginning to protrude, which protrusion has continued steadily to increase, the eyeball being forced downwards and outwards. Vision is very slightly impaired. She experiences little pain in the orbit, but is subject to frequent headaches. At the upper and inner part of the orbit, extending behind the eyeball, is felt part of the tumour, of firm consistence, and very slightly moveable. In consultation with my colleagues at the Hospital it was deemed expedient that the tumour should be excised.

An incision was made from the outer canthus vertically upwards to the extent of about an inch, so as to liberate the upper eyelid, which was then dissected backwards. The tumour was found to pass to the bottom of the socket and under the optic nerve, with firm attachments to the eyeball, nerve, and periosteum, so that it became indispensable to remove the whole con-

tents of the orbit. The tumour was about the size of a pigeon's egg. During the first four days after the operation she continued pretty well, with the exception of headache and occasional restlessness—the pulse about 90, and of moderate strength. On the evening of the fourth day the headache and restlessness increased, and she became delirious. Symptoms of opisthotonos, though not very strongly marked, supervened. On the fifth day she was almost insensible; there was constant subsultus tendinum, the pulse 120, weak and intermittent, and the extremities cold. She gradually passed into a state of complete coma, and expired.

*Sectio cadaveris.*—Old adhesions existed between dura mater and anterior part of frontal bone. The surface of the arachnoid was covered with purulent matter; the vessels of the anterior part of the arachnoid membrane injected. Purulent matter was also found in the sub-arachnoid cellular tissue, at the posterior part of the vermiciform process, and on the upper surface of the right orbital plate of the frontal bone, which bone was translucent, and not thicker than writing-paper. The substance of the brain was healthy. On making a section of the tumour it was found to be somewhat fibrous in its texture, and to present the characters of the carcinoma fasciculatum (Fig. 18).

The tumour removed from this patient twenty-two years prior to the second operation appears to have been of a simple fibrous structure; and it is not improbable that the basis of the second tumour was of the same nature, but that, occurring at a later period of life, and the system in a condition disposed to carcinomatous deposits, it presented the fibrous structure, and the characters of the carcinoma fasciculatum (Fig. 17).

This case exemplifies also the fact that the optic nerve bears a considerable degree of extension and twisting without disturbance of its functions, the eyeball having not only been protruded forwards and downwards, but turned considerably outwards from the proper axis, and the powers of vision remaining entire.

This case also shows the insidious manner in which inflammation of the brain or its membranes may creep on. The inflammation does not appear to have extended from the orbit along the course of the optic nerve, as the membranes investing it presented a perfectly healthy and natural appearance. It is the only case in my practice in which the operation appears to have been the cause of the fatal result. The existence of old adhesions between the dura mater and anterior part of the frontal bone, shows that the patient had previously suffered under inflammatory affections of these parts, which would give rise to a greater liability to their recurrence on the application of an exciting cause.

Robert Wilson, æt. sixty. In 1837 this patient received a se-

vere blow on the eye from the fist of his antagonist in a scuffle. The inflammation which followed required general and local depletion. In June 1838, three benign polypi were removed from the nostril next the affected eyeball by Dr Skae of Leven. The eye, at that time, presented the appearance of being slightly protruded. The orbital contents continued to augment in bulk, accompanied by considerable pain. In October of the same year he placed himself under my care. Nearly one-half of the eye was projected beyond the socket by a tumour of soft consistence attached deep in the socket. The conjunctiva was of a uniform red colour. The cornea was transparent, and the contents of the eyeball in their natural condition, but the power of vision was lost. He complained of constant uneasiness in the part, and of frequent lancinating pains. His sleep was restless, appetite impaired, and he had been rapidly losing flesh and strength. His countenance presented an anxious expression, and the skin that peculiar leaden yellow hue so frequently seen in patients labouring under carcinomatous disease. I excised the contents of the orbit, and the patient made a good recovery, and returned to Fife.

In the following summer (1839), there was an offensive sanious discharge, in considerable quantity, with constant pain in the back part of the orbit, great emaciation, quick small pulse, and much general debility. The eyelids were so contracted and puckered round the orbit, and the attempt to separate them gave so much suffering, that the bottom of the cavity could not be examined. On the 9th of August he had an apoplectic seizure, from which he recovered; but on the 25th of the same month he became comatose, and died on the 31st.

On examining the parts after operation (Fig. 17), a tumour one-half larger than the eyeball was found adhering loosely to that organ by fine areolar texture. At one spot opposite the annular ligament, it was attached to the sclerotic somewhat more firmly than elsewhere, but it had no intimate connexion with that membrane. The mass resembled medullary sarcoma in its lobulated configuration. In its intimate structure, especially externally, it approaches carcinoma alveolare; in other parts, carcinoma simplex.

From what has been stated it will appear that melanosis ought not to be classed as a species of carcinoma, or even as a malignant affection, and that when so situated that the whole mass may be removed by the knife, it is a curable disease.

That scirrhus of the eyelids is, like the same disease occurring in the lip, curable by the knife, provided all the parts involved be removed.

Of the other species of carcinoma seven cases are related. In two of these the operation of excision was successful; the



one presenting the characters of carcinoma fasciculatum, and situated within the eyeball, the other of medullary sarcoma with spherical cells, situated between the sclerotic and conjunctiva,—the one patient being fifty-six, the other sixty years of age.

The operations for the cure of such cases have been so universally unsuccessful that I would have been disposed to think that I had been deceived as to the true character of the affection in these two instances of a successful result, were it not that the diseased structures were minutely examined by so distinguished a pathologist and careful observer as Mr Goodsir, and that the cases differed from almost all those on record, in occurring in individuals somewhat advanced in life, instead of in infancy. Is it possible that when carcinoma shows itself at an early period of life, it indicates in a higher degree a constitutional taint and less of a local origin?

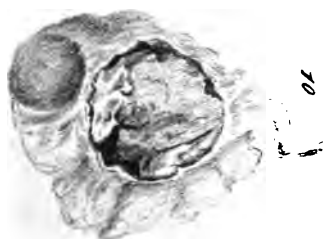
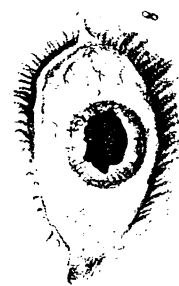
I must, in conclusion, express my deep obligations to my friend Mr John Goodsir, the distinguished conservator of the University Museum, for examining and submitting to the microscope the various preparations, and to my talented colleague Dr Skae, lecturer on anatomy, for the beautiful plates by which the subject is illustrated.

### Diagnosis.

ENCEPHALOID.	SCIRRHUS ( <i>as in common cancer of mamma.</i> )	MELANOSIS.
Of consistence of brain in thin cellular septa. Of an opaque white colour. Numerous minute vessels. Consists of globules and caudate corpuscles. May become of enormous bulk. Often of rapid growth. Often interstitial effusion of blood. Not disposed to form adhesions to surrounding parts. When subcutaneous, the skin is distended and stretched, and gives way usually by simple ulceration. After ulceration, rapid progress, and often large fungous growths, and frequently hemorrhage. This species of carcinoma most frequently met with in infancy and youth. Liable to be propagated through the absorbent organs.	Of firm consistence in cellulofibrous septa. Semi-transparent bluish-yellow colour. Sparingly supplied with blood-vessels. Nuclear cells. No caudate corpuscles. Seldom of large size. Progress generally slow. Rarely interstitial hemorrhage. Becomes firmly connected with surrounding parts. The skin becomes puckered and assumes the cancerous ulceration. After ulceration progress not so rapid, and seldom profuse hemorrhage, provided it does not assume the encephaloid structure. Most common in advanced life. Even more liable to be propagated through the absorbent organs.	Of soft consistence in thin cellular septa. Black or sepia colour. No blood-vessels have been traced. Pigment cells—round, oval, or irregular, and sometimes caudate. They attain a large size. Growth of variable rapidity. Never interstitial hemorrhage. Not disposed to form adhesions to surrounding parts. The skin becomes stretched and distended, and yields by simple ulceration. After ulceration progress of tumour more rapid—no hemorrhage. Usually about or after middle age. No tendency to be propagated through the absorbent organs.

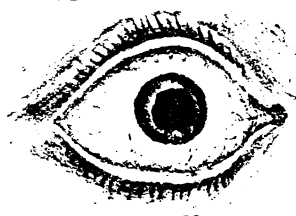
### EXPLANATION OF FIGURES.

Figs. 8, 9, 10, and 11, all refer to the case of Elizabeth Williamson, æt. eight,—disease, medullary carcinoma in the interior of the eyeball. Fig. 8 shows the appearance of the disease in its early stage, when the humours





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14



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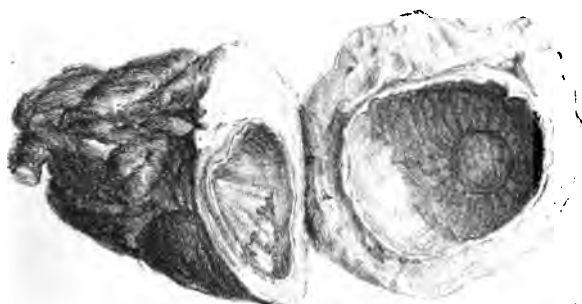


*Dr. Stead fecit.*

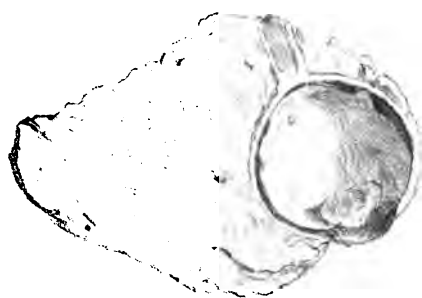
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D. r. hae fecit.

Pr. by Mr. Schenck.





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D. Sheffer

Printed by J. W. H. H. H.



of the eye are still transparent, and when the peculiar metallic glistening is seen deeply seated in the eye. The iris also is irregular in form and immovable. At this period I proposed operating, but the parents refused their consent.

Fig. 9. This drawing was taken three months after the former, and the day prior to the excision of the eyeball. The cornea is now somewhat opaque, the lens and iris pushed closely into contact with its internal surface, the vessels of the conjunctiva and sclerotic injected, the eyeball partially protruded, and considerable œdema of the eyelids.

Fig. 10 shows a section of the eyeball. The greater part of the posterior chamber is occupied by a tumour presenting all the characters of medullary carcinoma, supplied with numerous small vessels, and having spherical cells.

Fig. 11 shows the appearance presented three months after the operation, and a few days before the death of the patient. During the first fortnight after the operation all appeared to be going on favourably. The granulations then became pale-coloured, loose, and flabby; a fetid thin discharge took place, occasionally tinged with blood. The socket was gradually filled up by a fungoid mass of soft consistence and very vascular; the discharge augmented in quantity, the bleedings became more frequent, and the child sunk exhausted.

Figs. 12 and 13. Fig. 12 shows appearances similar to Fig. 8, viz., those which characterize the early stage of medullary carcinoma within the eyeball. No operation was performed. The patient was again brought to me after the lapse of two years, with an enormous tumour of soft consistence projecting from the orbit (Fig. 13). The discharge was small in quantity, very rarely tinged with blood, and he suffered little pain. His general health, however, was rapidly failing. I learned that the eye had given way about six months previously, and that the tumour had gradually attained its present bulk. The patient died exhausted about two months after the drawing was taken.

Figs. 14 and 15 refer to the case of Mrs Walker, æt. sixty-two, whose case has already been detailed. It will be perceived that the entire mass is altogether external to the eyeball. It consists of medullary carcinoma, with spherical cells. This patient recovered.

Fig. 16 shows the section of the eyeball, after excision, of John Graham, æt. fifty-six, whose case is already related. The mass occupies the cavity of the eyeball, and projects through the cornea. When submitted to the microscope, it shows all the characters of carcinoma fasciculatum, presenting neither cellular globules nor caudate corpuscles, but consisting of tufts of fibres running in a divergent course. This patient also recovered.

Fig. 17. Section of eyeball of Robert Wilson, æt. sixty, whose case has also already been detailed. The tumour adheres loosely by fine areolar texture to the external surface of the sclerotic. Its texture is somewhat anomalous. It resembles medullary sarcoma in its lobulated configuration, but not in its intimate structure, which in some places, especially externally, approaches carcinoma alveolare, in other carcinoma simplex.

Fig. 18. Grizzel Syme, æt. sixty. Her case has already been related. The tumour is attached loosely to the external surface of the sclerotic by fine areolar tissue. The texture is somewhat fibrous, but not a pure fibrous tumour, probably a form of carcinoma fasciculatum.

Fig. 19 shows the appearance of medullary carcinoma involving the orbit, frontal sinuses, antrum maxillare, and the cavity of the nose.

Fig. 20 shows the most advanced stage of carcinoma commencing in the eyelid. The disease commenced in the form of a small warty excrescence on the lower eyelid twenty-two years ago. The patient died exhausted. The only period at which his sufferings were acute was when the disease extended to the eyeballs, and before these organs had given way and allowed of the escape of their contents. The sclerotic coats could be distinctly traced at the period of his death, showing how little this structure is disposed to assume the cancerous degeneration.

58, QUEEN STREET, EDINBURGH,  
15th October 1844.

*On Sanguineous Tumours on the Heads of New-born Infants.*

By JAMES M. ADAMS, Surgeon, Glasgow.

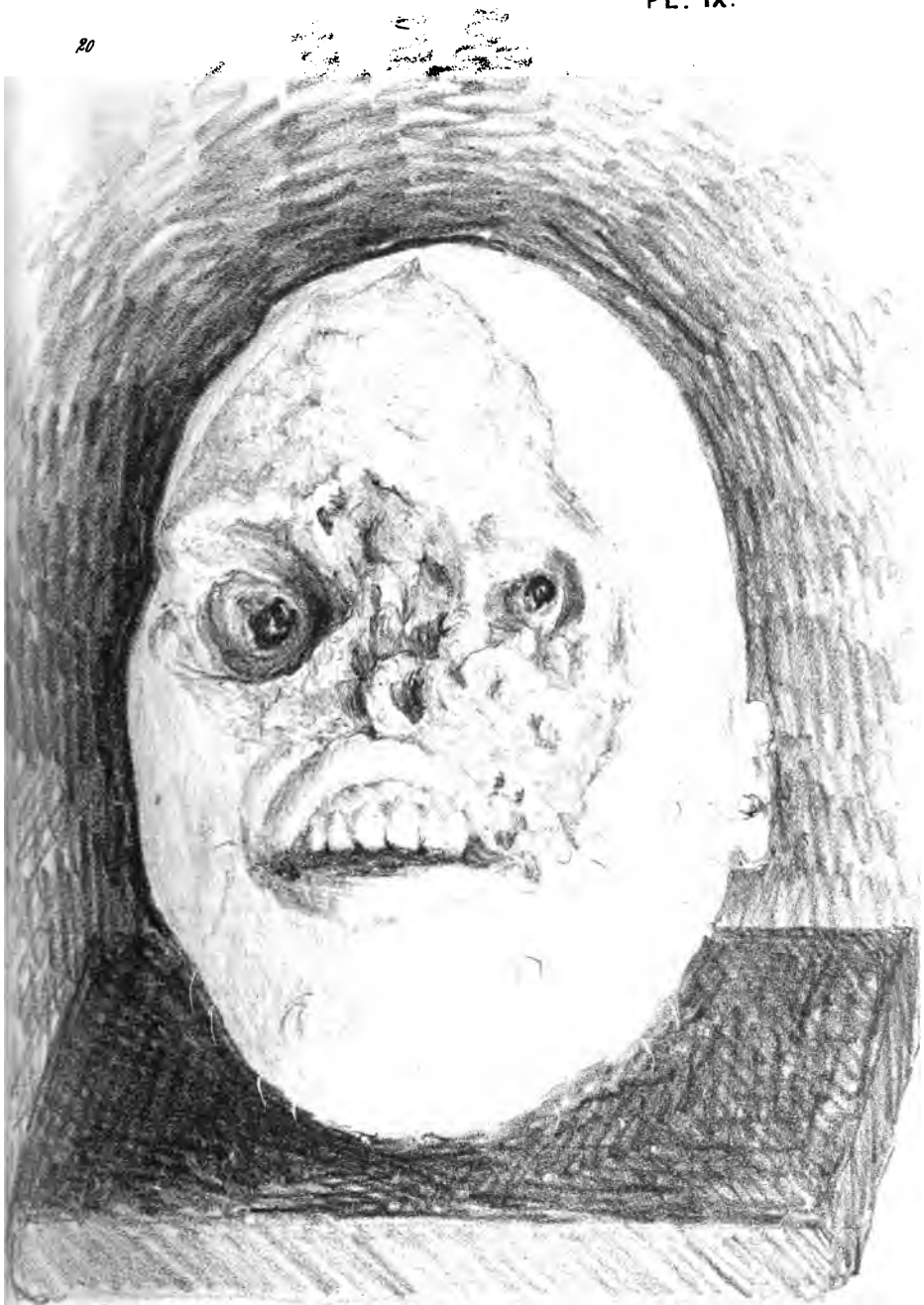
(Read before the Glasgow Medical Society, October 15, 1844.)

HAVING met with several cases illustrative of a rare form of infantile pathology, regarding which British authors are almost entirely silent,\* I think it may be interesting to the society to hear the details of a few of these cases, and a summary of my gleanings from the medical works and medical friends whom I have consulted on the subject.

All medical men engaged in obstetric practice are familiar with the occurrence of soft tumours on the heads of new-born infants. These tumours we generally ascribe to the protracted detention of the fetus in the passages, and to the pressure, especially when long continued, which surrounds all parts of the head, except that which presents. By the presenting part is meant that region of the child's head which is advanced towards the os uteri. The circulation being here interrupted, the overloaded capillaries throw out a considerable quantity of the serous portion of the blood, which, becoming diffused through the loose texture of the free or presenting portion, occasions a soft doughy swelling, of a livid colour, which pits deeply on pressure being made with the finger. Such a tumour, which is larger or smaller according to circumstances, generally disappears within the first few days after birth, and requires no treatment, or if treated at all, it may with safety be left to that of the grandmother or other skilful matron who presides on the occasion, and who may be observed stroking and fashioning with grave assiduity the child's head, so as to accord more closely with her ideas of natural form. It sometimes, however, happens that inflammation attacks a simple swelling of this kind, giving rise to an abscess. I once saw a case of this nature after a first labour, where the

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\* Burns, Campbell, &c., contain the merest allusions to these sanguineous tumours.



*St. Peter's*

*Printed by St. Peter's*



head had been long subjected to compression. But such examples are rare, and form rather an exception to a general rule.

This simple tumour or swelling has received from the Germans, without any reference to its pathology, the name of *caput succedaneum*, by which name it is commonly known in this country. On account of its frequent occurrence and of the comparative rarity of another class of tumours found under similar circumstances, many practitioners have not extended their information beyond the simple form; and when they meet with a case of the rarer kind, they generally regard it either as an anomalous affection, and unworthy of serious attention, or mistake it for some other and very different pathological state.

Almost all that we know of the rarer class of tumours we owe to the French and German writers, who have devoted much attention to the subject. They have written regarding these under a great variety of names, applied according to the several ideas entertained of their pathology.\*

For all these names Nægelè† has substituted that of *cephalhæmatoma*, from the Greek Κεφαλή, "the head," and αἱματωμα, "a bloody tumour;" and the expression *cephalhæmatomata* is now becoming of general use in signifying bloody tumours or swellings on the heads of new-born infants.

*Cephalhæmatomata* may exist in three forms, viz., under the aponeurosis, under the pericranium, and under the bone.

The *first* kind, viz., that wherein the blood is effused under the aponeurosis formed by the expansion of the occipito-frontalis muscle, is generally considered to be of a simply contusive character, as evidenced by its mode of production as well as by its external and internal anatomical characters. I have seen but one example of this variety; but as it was a consequence of external violence occurring after birth, and not arising in the course of labour, it would be out of place to do more than allude to it. The pathological condition was, however, identical with, and the case illustrative of, the causes which give rise to the affection we are considering. This is the simplest but at the same time the rarest form of the *cephalhæmatoma*. In about 500 infants carefully examined by M. Valleix,‡ only two cases were met with, one of which was evidently owing to very con-

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\* Baudelocque calls them "bloody tumours of the cranium." Paletta employs the terms "*abscessus capitis sanguineus recens natorum*." Carus uses the expression "*ecchymoma capitis*;" to which Plenck adds the term "*cariosum*." Oslander makes use of the word "*ecchymosis*;" while Dugès and Gölis have adopted that of "*thrombus*." The Germans generally speak of the *Kopfblutgeschwulst* or "head blood-swelling."

† C. F. Nægelè, *Erfahrungen und Abhandlungen*, &c., p. 247. Mannheim, 1811.

‡ *Maladies des Enfants nouveau-nés*. Paris, 1838.



siderable external violence. MM. Baudelocque,\* Velpeau,† and Dubois, speak of its occurrence, and MM. Vernois and Billard‡ have each given a case confirmed by dissection. Dr Black§ describes a case which I think he was warranted in considering a sub-aponeurotic cephalhæmatoma. Many others merely allude to and admit the possibility of its formation; but some, as Nægèlè, Zeller, and Höre,|| deny altogether its existence. There can be no doubt, however, of its occasional occurrence, nor indeed does it differ materially from the bloody effusions which are sometimes met with in older children¶ and in adults. In general it disappears rapidly, and requires only mild discutient treatment.

The *third* variety in the above list, the *subcranial* cephalhæmatoma, which has its seat between the dura mater and the bone, has been but rarely observed, and very little of a satisfactory nature is known regarding it. Of the second I shall speak presently. The descriptions given of the third variety tend to throw but little light on either its causes or its pathology. Höre was the first to describe it, and since then MM. Moreau\*\* and Dubois have each detailed a case. M. Baron†† states that he has met with several. M. Valleix has found the dura mater separated by effused blood, but not so circumscribed as to form a tumour. The *sub-cranial cephalhæmatoma* is not confined to the parietal bone, but is met with most frequently in the occipital region. The symptoms are those of cerebral compression, but it is impossible to diagnose its existence during life, and it can only be guessed at when it co-exists with an external cephalhæmatoma, which, according to M. Baron, frequently happens.

The *second* variety, or that in which the tumour exists beneath the periosteum, although much more frequent than either of the two preceding, is on the whole a rare affection. I place it last, because it is to it I mainly wish to direct attention, as being the most interesting in a practical point of view. I will briefly detail two of the best marked cases from among the few which have come under my notice, before reverting to the opinions of the authorities whom I have consulted regarding the causes, symptoms, pathology, and treatment of the affection.

CASE I.—April 16, 1842. Delivered Mrs K. of a healthy male infant. Duration of labour six hours, of which the first stage occupied five. The child presented in the second or *right occipito-cotyloid position*. On the 24th I was sent for to exa-

\* L'Art des Accouchemens, Part I. chap. 5, sect. x. Paris, 1815.

† L'Art des Accouchemens, p. 592. Paris, 1835.

‡ Maladies des Enfants nouveau-nés, 2d edit., p. 97. Paris, 1833.

§ Ed. Med. and Sur. Journal, No. 146.

|| De Tumore Cranii recens Natorum, &c. Berolini, 1825.

¶ Riiliet et Barthez, Malad. des Enfants, vol. ii. p. 30. Paris, 1843.

\*\* Dict. de Méd., art. Ceph. †† Ibid.

mine what the mother and friends called "a hole in the child's skull," and regarding which they felt much alarm. I found a small soft fluctuating tumour, about an inch and a quarter in diameter, half an inch elevated above the surrounding integuments, and situated over the superior and posterior portion of the left parietal bone. The skin covering it was smooth, glazed, and of a slightly livid colour. The tumour was circumscribed by, as I think, a sharp abrupt ridge of bone, which, on a partial examination, seemed to mark the boundary of an opening through the skull. But on a more accurate inspection, and on pressing the finger inwards from the circumference towards the centre, the bone could be felt, though indistinctly. This last circumstance, independently of the absence of pulsation and other diagnostics, sufficiently proved the non-existence of a communication with the interior of the skull. Being satisfied that it was a case of cephalhæmatoma, I gave a favourable opinion, and prescribed an evaporating lotion, conjoined with slight pressure by means of a bandage. In little more than three weeks the soft tumour had entirely disappeared, but the boss of the parietal bone felt more elevated than the corresponding one. In a few months afterwards there was no appreciable difference between the two sides of the head.

CASE II.—Another tumour of the same description occurred in the practice of my friend Dr Menzies, who kindly allowed me to watch its progress along with him.

The child, a healthy male, was born May 12, 1844, after a labour of twelve hours, of which the first stage occupied ten and a half, it being a first labour. The second stage was hastened by the administration of a half ounce dose of ergot of rye. Immediately after the birth of the child, a considerable tumour, seated over the centre of the left parietal bone, was observed; but being considered one of the ordinary simple tumours, it was not examined. About a fortnight afterwards, Dr M.'s attention was called to it, the friends being alarmed at its continuance. At this period it was persistent, looked more elevated but less diffused than when first seen, and had the shape and size of half a small orange. There was a marked feeling of an aperture of the same dimensions in the bone, and several spiculæ seemed to project inwards from the circumference. From its singularity, Dr M. mentioned the case to me in the course of conversation; and on 2d June I visited the child along with him. At that date I took the following notes:—"The tumour is  $1\frac{1}{2}$  inch in diameter, and is elevated fully an inch. It is distinctly circumscribed. The skin covering it is slightly tense and hot, but is not altered in colour. At the circumference there is a distinct ridge, apparently of bone, and having several spiculæ projecting towards the centre; and to the touch there cannot be conveyed a more conclusive sensation of the existence of an aperture in the

bone. The tumour is soft and fluctuates, is not transparent, and does not pulsate. Pressure causes uneasiness, but scarcely more than is caused by pressure on any other part of the head. It does not diminish, nor are the fontanelles elevated on pressure. It is limited to the parietal bone, and does not extend to the sutures. On the whole, I am satisfied it is a case of sub-pericranial cephalhæmatoma." Dr M. and I agreed to watch its progress, and trust to nature, as hitherto, unless some untoward symptom occurred.

*June 9.* "Tumour of a more rounded shape, and still retaining all the feeling of an aperture in the bone, well marked. Indeed a medical gentleman, who saw it along with us at this date, has almost satisfied himself that it pulsated and communicated with the brain.

*June 24.* The swelling has been gradually subsiding since last date, and is now entirely gone. Nothing can be felt on its site, excepting a node of bone about the size of a pea, marking the posterior boundary of the swelling."

The general health of both infants continued excellent, and did not seem to be in any way affected by the existence of the tumours. They have both been seen repeatedly since, but not the slightest trace remains of the affection.

The foregoing cases are good illustrations of the sub-pericranial cephalhæmatoma. They are rare; for Nægelè met with but 17 cases in 20 years' practice. Velpeau speaks of 5 cases, 3 of which he saw after death; and Valleix met with only 4 cases in 1937 children. But there prevails much difference of opinion regarding the frequency of the affection. Doepp\* states, that at the St Petersburg founding hospital he has met with 262 cases in 50,000 children, or 1 in 190, which is a large per centage; while Dr Burchard,† in the course of 7 years' hospital and private practice, met with 45 cases, although he does not state what proportion these bear to the whole number. The experience of the last-mentioned author, however, presents several points so much at variance with other writers, that I am inclined to believe that many of his cases must have been examples of the ordinary caput succedaneum. Indeed, it would appear from his statistics, that Breslau is singled out from the rest of the world for the frequent occurrence of cephalhæmatoma; since, while in Dresden, Wurtzburg, Marbourg, and Berlin, in 6188 children there were observed but 17 cases, there occurred in Breslau, among 1402 children born at the Clinical Institution, not less than 13 cases of cephalhæmatoma. M. Baron estimates its occurrence as one in 500 births, and this seems to accord pretty closely with general experience.

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\* Oest. Med. Wochenschr., January 1, 1843.

† De Tumore Cranii recens Natorum. Breslau, 1837.

The observations made by M. Valleix on this affection are by far the best and most complete with which I am acquainted; and it is from his writings chiefly that the following description is drawn.

At birth, or very shortly afterwards, there is found a tumour situated about the posterior and superior angle of the right parietal bone, although, as in the two cases detailed, it is occasionally met with on the left. The size and form of the tumour varies much. Sometimes it may be of the size of a bean, at other times as large as the closed hand; sometimes very elevated and circumscribed, at others quite flat, and extending over a large portion of the skull. In a few cases more than one tumour is found.\* The colour of the skin covering it is similar to that of the rest of the head, but from being on the stretch it may appear glazed and smooth. The temperature of the swelling is scarcely greater than that of the rest of the head. Sometimes, on laying the hand flat on the tumour, there is felt a peculiar thrilling sensation; and Nægelè states that he has detected pulsation in two or three instances,—a singular circumstance, and which Burchard confirms by the recital of a case in which pulsations were very evident. But the most striking peculiarity and practical point is the presence of a bony ridge which circumscribes the swelling, and conveys to the touch the idea or feeling of an opening through the cranium. So very evident seems the presence of an opening, that it is only by grouping the other symptoms we can forego the evidence of sense; and even men of science and experience are occasionally led into an erroneous judgment. But in general the bone within this circle can be felt uninjured on pressing the finger firmly from the edge towards the centre. The tumour acquires its full development in a period varying from a few hours to as many days, and it seldom disappears entirely within four or five weeks.

Several opinions are held regarding the cause or causes of this affection, but of these I will only allude to the most important. Some authorities believe that it is a consequence of severe labour or the use of instruments during delivery, while Paletta† saw it almost always after very easy labours. Nægelè still more decidedly tells us that he never saw it after severe instrumental deliveries, but only after those of an easy description; and with Osiander,‡ he considers that the infants came into the world with the swelling of the head upon them; and the observations of Siebold, Michaelis, Schmitt, Klein,§ and Höre,||

\* Nægelè, *op. cit.*

† *Exercitationes Pathologicae de Abscessu Sang. Capit.*, p. 123. Mediol. 1820.

‡ *Handbuch der Entbindungskunst.*

§ *Bemerkungen über bisher angenommene Folgen*, &c. Stuttgart, 1817.

|| *On the Outer and Inner Bloodswelling of the Skull (Schädelblutgeschwulst) in New-born Infants*, &c. Siebold's Journal, vol. v. p. 220.

have led them to the same conclusions. Several cases related by them and others seem to countenance this view. In a case attended by M. Fortin,\* the tumour was detected by the finger in the passages. Dr Burchard diagnosed a cephalhæmatoma before the rupture of the membranes, "to the great joy of those who waited the result of his diagnosis;" and this, according to Osiander, may occasionally be done. Dr Burchard likewise records, that in 1831 he removed by the cæsarian section 27 infants from the uteri of their mothers, who were victims of the cholera. In one of these fetuses he found a tumour seated on the right parietal bone. On dividing it in the presence of two brother practitioners, he discovered to his surprise, in the place of the bony substance, two laminæ, which were extended into a small pouch, and contained recent, fluid, uncoagulated blood,— "in other words, a cephalhæmatoma." The vessels of the skull, he adds, even to the most minute, were filled with blood.† M. Billard found a large sanguineous effusion on the summit of the head of a fetus at the fifth month, but he does not say whether situated above or beneath the pericranium.

It is difficult to say precisely what opinion M. Nægelé holds, but at first he considered that the affection was caused by the laceration, during labour, of the blood-vessels which ramify through the skull, and which he supposed were in a varicose condition; but latterly he is of opinion with Schmitt‡ and Feiler that there is no certainty on this point. Becker,§ Carus, Capuron, Wendt, Osiander, and others, consider that the affection may be caused by the pressure which the head receives in a small pelvis; the latter author believing that in such a case a small vessel is somewhere ruptured, and that the tumour may be viewed as a kind of extravasation. But the most important researches on this point have been made by M. Valleix, who has illustrated his views by a train of close reasoning, the result of much philosophic observation. He considers that cephalhæmatomata do not exist before the occurrence of labour, and that they are the consequence of force or pressure employed upon the child's head during delivery. For a right understanding of his views it is necessary to advert to the anatomy of the parietal bones in the infant. At birth the pericranium adheres but slightly to the bone, with the exception of a few lines at the sutures and fontanelles, and consequently a slight force is sufficient to strip it off. In doing so, numerous vessels are seen to enter the fissures of the bone. The bone itself ossifies from one

\* Presse Médicale, No. 9, 1837.

† The pathological appearances, as detailed, make it doubtful if this was a real case of cephalhæmatoma.

‡ Journ. Méd. Chir. de Saltzbourg, vol. i. 1819.

§ Sur les Bosses sanguines des Nouveau-nés, &c. Journal de Hufeland, Oct. 1828.

point in the centre, *i.e.*, the parietal protuberance, and bony radii shoot from the centre to the circumference. These radii are best seen on a dried preparation. Haller\* noticed that on compressing the head of an infant even slightly, after removing the pericranium, he saw springing from between these radiated fibres innumerable drops of blood, which collecting together formed a thin layer over the bone. M. P. Dubois,† after corroborating Haller's experiment, suggested that the fact furnished a probable explanation of the formation of the bloody tumours of the head. M. Valleix, after numerous observations, confirms the theory of Dubois, and concludes that if pressure, and above all, if circular pressure, is made upon a point of the cranium, blood will spring from the surface of the bone, and by its upward pressure strip off the pericranium, which is easily detached; that as the liquid blood accumulates under this membrane, new outlets will be opened up for the escape of more blood, and thus at length a tumour will arise. Assuming this as a settled point, he considers that the pressure of the child's head against the mouth of the uterus causes, according to the degree of pressure, either the simple sero-sanguineous tumour, an ecchymosis, or a sub-pericranial cephalhæmatoma. Several circumstances concur to favour this view. Among others may be mentioned the almost invariable presence of an ecchymosis between the bone and pericranium in the new-born infant, a circumstance first noticed by M. Valleix, and which I have now had repeated opportunities of confirming. It is likewise important to bear in mind that cephalhæmatomata are always seated on the parietal bones, and most frequently on the right, which is precisely what we should expect from the fact, that the position of the fœtus in utero is such, that one of the parietals is pressed against the os uteri more frequently than any of the other bones of the head, and that the right parietal presents much more frequently than the left. It may be objected that if their cause is so constant, how comes it that cephalhæmatomata are so rare? M. Valleix replies, that the most favourable cases for the production of the tumours are those in which a very large portion of the parietal, to the exclusion of the rest of the skull, presents at the orifice of the uterus, and that such cases rarely occur. Another important objection appears to lie in the statement of Nægele and other eminent authorities, according to whom the affection occurs only after labours of an easy description. But what is understood by labours of an easy description? Is length of time to form the measure of our ideas? "Is not an accouchement," asks M. Valleix, "which lasts four, five, six hours, and more, where the pains occur in continuous succession and

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\* *Elementa Physiolog.*, t. vi. p. 388.

† *Dict. de Médecine*, art. *Ceph.* t. vii. p. 88.

gradually increase, and where the head, when it does present favourably, finds a ready passage—is not such a labour an easy one? and in this accouchement does not the head suffer very considerable pressure, either in passing the os uteri (*traversant le col*) or in gliding through the pelvis? Do we not often see following such accouchements sero-sanguineous œdema, the necessary cause of which is very strong and long-continued pressure? Instead of easy labours, we should say speedy labours.”

“It would go far,” says Dr Black, “to strengthen the opinion of M. Valleix, if future observation can show that they occur in cases where the *first stage* of labour is tedious and difficult, or where the membranes burst at an early period.” Of 41 cases observed by Dr Burchard, 29 were first and 8 second labours; at the same time, however, this predominance of cephalhæmatoma in first births is partly accounted for by the fact, that more than one-half of the accouchements at the Clinical Institution of Breslau were of primiparous females. In the few cases observed by myself, the first stage of labour was protracted; two of them were primiparous labours, of which the first stages occupied 10½ and 16 hours respectively.

There are, no doubt, some circumstances which are difficult to explain by a reference to the views of M. Valleix. I make no account of the case of M. Fortin, for in it the head had evidently undergone the pressure of the os uteri; nor does the occurrence of cephalhæmatoma in breech cases offer a serious difficulty, for the application of forceps has been frequently required after the birth of the feet and trunk. But if Dr Burchard really diagnosed a case of cephalhæmatoma before the rupture of the membranes, if he met with one case (a breech presentation too) in the second-born of twins, where it is difficult to believe that much pressure could have been exercised, and if to these be added his case of the infant removed by cæsarian section, in which this tumour existed, then it must be admitted that his facts are “stubborn things” which would require very ingenious reasoning to contravene. An attentive review, however, of the various facts and arguments brought to bear upon this point, inclines me to regard M. Valleix’s conclusions as the most correct, or at least the most plausible and rational yet propounded.

With regard to the morbid anatomy of the affection, there prevails some contrariety of opinion and observation. M. Valleix says that the hairy scalp generally preserves its natural aspect, although some authors, and among them Oslander, speak of its being of a deep red or livid colour. The aponeurosis is always uninjured. The pericranium preserves its natural transparency, but is somewhat thickened,—a fact first observed by M. Dieffenbach\* and

\* Rust’s Handbuch der Chirurgie, vol. i. p. 125. Berlin, 1830.

confirmed by Valleix. Its under surface presents a smooth, polished appearance, like that of a serous membrane, thus contrasting with its ordinary roughened appearance caused by adhering cellular filaments. It adheres to the bone with a certain degree of force, at the circumference of the effused blood, but it may be easily and completely stripped off. At the line of attachment of the pericranium to the osseous ring (*bourrelet*), exists a fimbriated prominent border, caused by the rupture of a thin membrane that lined the pericranium and covered the bone within the limits of the tumour. Paletta describes it as a tough gelatinous membrane adhering to the bone. M. Valleix did not find, in four dissections, that this adventitious membrane presented the same appearance in every case. In a portion which he showed to M. Velpeau the latter recognised the characters of condensed cellular tissue, while in another it had more of a mucous character. In each instance its cranial and pericranial portion, though distinctly continuous, were of a different structure. Its exact nature has not been ascertained, but it is more than probable that it is an exudation of coagulable lymph condensed or modified according to circumstances. Chelius\* speaks of having found the pericranium ossified; but he only adduces in proof, the crackling noise and sensation given to the finger on making forcible pressure over the part. In the case seen by Dr Menzies and myself, it seemed, towards the latter stages of the case, as though the finger nail could be inserted beneath a leaf of bone. But M. Valleix has never found the pericranium ossified; and while he does not deny the possibility of such an occurrence, he thinks it should be classed among the cases of accidental ossification of the periosteum, as described by Lobstein, Howship, and others. The vessels of the pericranium do not present any lesion.

The condition of the bone forming the base of the tumour has been variously described by different authors. By Paletta and Michaelis,† the affection is attributed to a disease of the bones; they think that the *external table* of the skull is ulcerated and destroyed, and that the vessels of the diploe produce the hemorrhage. I think it more than probable that they have mistaken an effect for a cause, in all likelihood from seeing some of the very few cases wherein caries or necrosis has taken place from the fluid blood being allowed to remain too long in contact with the bone. Nægelè, and after him Zeller, Höre, and many others, combat this opinion of Michaelis, and state that, in numerous cases examined by them, and in which they made incisions, they found the bone smooth and polished.

\* Handbuch der Chirurgie, vol. ii. Leipzig, 1829.

† C. F. Michaelis über eine eigene. Art von Blutgeschwülsten, in V. Loder's Journal, vol. ii. p. 657, 1799. An abstract is given of his opinion in Underwood, 9th edition, p. 488.



M. Valleix's investigations on the development of the bones of the head in new-born infants led him to results having an important bearing on this question. He found that in the process of ossification the internal table is first formed; upon that is next deposited a multitude of osseous fibres; and that lastly, at a later period, a layer of compact tissue, constituting the external table, is produced. "Thus there are three distinct stages of cranial ossification." For the first fifteen days of life, or in many instances for a much longer time, the bones attain the *second degree only* of ossification, except at the parietal prominences; they have a well-formed inner table, and a vascular diploe, *but no external table*.

M. Valleix found, in his dissections of cephalhæmatomata, part of the surface of the bone smooth, but sprinkled with many "osseous rugosities" not easily detached. He found that the bony circle consisted of a ridge placed upon the bone, and always surrounding the tumour completely, unless when it was situated near to a suture;—in this point differing from Dr Burchard, who almost always found the superior margin—that next to the sagittal suture—the most prominent. The bony ridge may easily be detached from the bone by the finger nail, and yet leave the latter uninjured. Busch,\* in the absence of dissection, doubts the existence of this bony ridge altogether, and considers it "a mere optical (tactile?) illusion." But to such an opinion may be given the same credit as to that of some medical men who, from having practised for twenty-five years without *observing* cases of cephalhæmatoma, do not hesitate to set aside the experience of others, and to deny altogether its existence. The bony ridge differs in thickness and consistence according to the degree of ossification. It varies in height in different cases and in different parts of the circle, but in general it averages from a line to a line and a half. It belongs to that class of adventitious productions described by Lobstein,† and termed *osteophytes*. It is a curious fact that at the first, and so long as the tumour goes on increasing, no circular ridge can be felt, but no sooner has it formed, than the enlargement ceases,‡—a fact which proves that it is a process set up to prevent the increase of the tumour and the farther separation of the periosteum.

The contents of the tumour vary in quality and consistence. There may not be more than a scruple, and there may be nearly eight ounces. My friend Dr W. Campbell of Edinburgh informs me that in two cases which came under his notice, and in which he found it necessary to interfere by puncturing the tumour with an ordinary lancet, the one yielded a large tea-cupful, and the other half a tea-cupful of slimy, tenacious, sanguineous matter.

\* Lehrbuch, &c., p. 42.

† Anat. Patholog. t. ii. p. 141.

‡ Valleix, op. cit. p. 504. Fortin, de Cephal., Presse Médicale, No. 9, 1837; and two cases of Dr Wigands, quoted by Zeller.

Before the following day the tumefaction had so completely disappeared, that, were it not for the cicatrice resulting from the use of the lancet, Dr C. remarked that its situation could not be traced. Dieffenbach states that the blood, if not absorbed or afforded an outlet, undergoes decomposition, and is converted into a bluish-brown or dirty gray substance, having a foul smell. In some cases the blood may be coagulated, which will render fluctuation obscure, and in others it may be mixed with pus. But, in general, the contents are of a dark colour and liquid consistence, and devoid of any particuliar odour. When otherwise, it cannot evidently be owing to the state of the containing parts, unless where the bone is diseased, and results in all likelihood from the commencement of decomposition, arising from the removal and stagnation of the blood out of its natural channels.

There are but few diseased appearances occurring on the heads of new-born infants likely to confuse the diagnosis; and it requires little more than a knowledge of the existence of such affections, and of their distinguishing characters, to prevent our falling into error.

The first which may be mentioned is the ordinary caput succedaneum already described. Here the tumefaction is diffused, irregular, and loses itself gradually in the surrounding integuments. The colour of the swelling is dark red, or blue; it feels doughy, consequently never pulsates, and leaves a pit on pressure. These distinctions are sufficiently marked; but the diagnosis will be more difficult when a true cephalhæmatoma lies under the ordinary swelling, and of this occurrence Zeller has seen several examples. Here, it is evident, the proper diagnosis can only be obtained after the dispersion of the caput succedaneum, though perhaps a round firm elevation may be felt through the doughy swelling. M. P. Dubois once met with the simultaneous occurrence of the simple swelling, or caput succedaneum, along with the sub-aponeurotic and the sub-pericranial cephalhæmatoma. This complication would necessarily render the diagnosis very difficult.

With congenite cerebral hernia the cephalhæmatoma is the most likely to be confounded, and yet the characters are sufficiently distinct. Touch in both affections deceptively indicates the presence of a perforation in the bone; but in cephalhæmatoma the bone may be felt, as before described, on making strong pressure from the circumference towards the centre. The cephalhæmatoma remains the same after the strongest pressure, while the cerebral hernia can be forced down upon the brain through the cranial opening, giving rise to all the symptoms of cerebral compression, such as sickness, coma, and convulsions, &c. In hernia cerebri we have always, or with very rare exceptions,\*

\* Levret, Journ. de Méd., vol. xxxvii. p. 410, 1772; also a case related to the Glas. Med. Soc. by Mr Lyon, since published in the London Med. Gazette, 1844.

a pulsation synchronous with the pulse; and though pulsation has likewise been felt in some cases of cephalhæmatoma,\* yet there is no doubt of the extreme rarity of such an occurrence. It is more than probable that most of the alleged cases of cure of cerebral hernia have been cases of cephalhæmatoma, the mistake originating from an imperfect examination, or from mistaking the pulsation of an artery running over the tumour, which would be a very likely cause of error. The cases related by Le Dran,† Corvinus, Trew,‡ Detharding,§ &c., as hernia cerebri, require little more than an attentive perusal to convince the reader that they were cases of cephalhæmatoma. Ferrand,|| in his essay on Encephalocele, has already satisfactorily investigated the case related by the first-mentioned author. In it a tumour was situated on the right parietal bone—and it is important to recollect that cerebral hernia is never found at the parietals—which disappeared quickly under the use of discutients. In the case related by Trew there were two tumours, one on each parietal bone, and they likewise disappeared under the same simple treatment.

Fungus of the dura mater will be discriminated by an attention to the same circumstances which characterize cerebral hernia.

As regards certain vascular tumours, such as aneurisms, &c., they want the osseous circle, can be emptied on pressure, &c.

The existence of serous cysts in the scalp, as spoken of by Zeller, must be regarded as very hypothetical; and, at any rate, they could be easily diagnosed by their being moveable, and by the absence of the bony circle.

A possible case of error may arise from an abscess; and Val-leix relates such a case, where after death, in a child of four weeks old, he found over the left parietal bone a soft, irregularly round, fluctuating tumour. The skin was nowise discoloured, and a hard well-marked edge surrounded the tumour. It was opened, and found to be an abscess. I have met with a similar case occurring at a more advanced period; but the hard edge, in these cases produced by condensed cellular tissue and lymph deposit, did not convey the strongly marked sensation of pressing a ring of bone, as felt in cephalhæmatoma.

Flint¶ has described a very rare tumour which was situated on the occipital bone, and communicated with the sinus by an opening in the bone. The tumour was opened, and the child died of hemorrhage. Busch\* relates a similar case.

\* Nægèle and Burchard, op. cit.

† *Observ. de Chirurg.* vol. ii. obs. i. Paris, 1831.

‡ *De Hernia Cerebri*, in *Haller's Disput. Selectæ*, vol. ii. p. 333.

§ Heustis, *Amer. Journ. of Med. Science*, p. 394, 1829; also Michel, *Gaz. Méd. de Paris*, p. 183, 1833.

|| *Mém. de l'Acad. de Chirurg.* t. v. p. 47.

¶ *New English Journal of Medicine*, vol. ix. p. 112, 1820.

\* *Lehrbuch*, op. cit. p. 440.

A favourable prognosis may in general be given. If, however, the cephalhæmatoma be of great size, or remain undiminished for several weeks, the bone is apt to become affected, when, from the excessive discharge, and the constitutional disturbance attendant upon the extension of the disease to the brain, death will almost inevitably result. In a limited number of cases, the destruction of the bone goes on to such an extent as to effect a real perforation. Nægelè observed one such case, where, after the long existence of a cephalhæmatoma in which absorption had not taken place, and which was late of being opened, he found, after the subsequent death of the child, a perforation of the skull one and a half German inches in circumference. Kopp, Oslander, and others, have made similar observations.

There are several opinions regarding the process of cure. The following are the views of Nægelè, as given in a letter to M. Velpeau.\* He says, "It is only at the end of fifteen days or three weeks that the tumour commences to diminish. Towards the fourth week it is clearly observed that it begins to resist on pressure being made. If you apply the finger on the summit, you cause a depression which disappears on the pressure being removed. It is exactly as though one pressed upon a roll of copper foil, or upon parchment. In proportion as the tumour hardens it diminishes, and becomes insensibly flatter." His opinion is, that—1st, The detached pericranium ossifies on its inner surface; 2d, In proportion as the extravasated blood is absorbed, the ossified pericranium approaches the bone, and finally unites perfectly with it; 3d, After six months, or even a year, an eminence is remarked on the spot where the tumour was seated. In children who have died at the end of six months or one year, he has found, on dissection, that the parietal bone was much thicker at the seat of the tumour than at any other part of its extent.

Valleix gives a somewhat different account. He says, "I have seen two cephalhæmatomata terminate without operation, and the following are the results. They existed on the same infant, and, though small, the osseous circle was considerable. Every day this circle made new progress from the circumference towards the centre, and the fluctuating part of the tumour proportionally diminished. At last, only a small excavated point containing fluid was to be felt at the top of the osseous protuberance; but this point never offered either the hardness or the crackling noise of parchment mentioned by some authors. In a word, the ossification took place from the sides to the middle, and from below upwards, that is to say, it took its origin from the bone." This description accords exactly with what I have myself observed in two of the cases whose progress I watched the most narrowly; but as to any *exclusive part* taken by the bone or the periosteum

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\* Velpeau, op. cit. vol. ii. p. 596.

in the process of cure, I feel inclined, amid the various opinions held on the subject, to think with that truly eclectic philosopher, Sir Roger de Coverley, that "much may be said on both sides."

Regarding the treatment of cephalæmatoma there needs not much be said. In many cases—I might almost say in most cases—no treatment is required, or at least, the treatment adopted may be of the simplest description, and used principally with the view of preventing the parents or friends from becoming anxious. When the tumour is small, causing no uneasiness, and not threatening to inflame, there may be used a simple evaporating lotion, such as a solution of muriate of ammonia with alcohol, and this treatment may be conjoined with slight pressure. But when the tumour is large, and does not diminish at the end of a fortnight or three weeks, these means are likely to fail, and it may be necessary to adopt more active measures to procure absorption or evacuation of its contents. Dr Zörner\* of the Foundling Hospital at Vienna is accustomed to employ cold applications, to give calomel internally when he thinks there is much cerebral congestion; and he almost invariably opens the swelling—a most injudicious practice when hastily adopted. Moscati and Paletta pass a seton through the tumour, in the belief that the bone is necrosed; but the practice is apt to create too much irritation, and, according to these authors themselves, sometimes induces an acute fever which carries off the patient. Göllis† of Vienna establishes a slight issue on the top of the tumour by means of caustic potash, with the intention of causing, by moderate irritation, a freer absorption; and he gives 32 cases cured by this treatment. But Zeller throws great doubt on some of these cases; and, moreover, shows from Göllis himself that his method has inconveniences, often causing necrosis and even death. His treatment is, nevertheless, adopted by Krukenberg and Schmitt. I am far from entertaining a favourable opinion of these last-mentioned modes of cure; for they appear dangerous, ill adapted to the tender age of the patient, and can only arise from the greatest dread of the knife. Lowenhardt recommends puncture with a trocar, and strapping; and to this plan I am inclined to give the preference, using however the ordinary knife for subcutaneous puncture instead of the trocar. Where the contents of the tumour are fluid it will be equally efficacious, and the wound will be more readily disposed to heal by the first intention. I had occasion to practise it two years ago in the case of a child who, by a fall, fractured the parietal bone of one side, giving rise to an extensive effusion of blood between the scalp and pericranium. But most authorities prefer making a simple incision proportioned to the size of the tumour; and I have been informed by several medical friends of six or seven such cases wherein the

\* Med. Jahrb. des kinderkrankheiten oestr. Staat. Dec. 1842.

† Göllis, *Traité pratique de Maladies particulières à l'Enfance*. Vienne, 1818.

operation was not followed by the slightest bad consequence. The wound must afterwards be treated on the ordinary principles, and the simpler the dressing the better. In making the incision care must be taken to avoid the arterial vessels; for, in a case operated on by M. Valleix, death followed the division of a small branch, and Smellie\* records a similar unfortunate case which happened in the hands of one of his pupils.

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*Practical Observations on Chronic (or Functional) Diseases of the Stomach, &c.* By WILLIAM STRANGE, M.D., M.R.C.S. Edinburgh, Surgeon to the Ashton-under-Lyne Dispensary.

(Concluded from Vol. I. page 244.)

I THINK it is in some measure a recommendation of my division of functional gastric disorders, that, in addition to the difference of pathological condition upon which each of the several varieties depends, the mode of invasion, in the case of a complicated and long-standing attack of dyspepsia, is very generally in the exact order of that division. From the very trifling embarrassment to the digestion which many patients suffer without their notice being particularly directed to it, and which arises from a temporary excess either of food or drink, irregularity of sleep, over-exertion of the mind, or the many other causes which temporarily diminish the tonic power of the muscular structure, the symptoms gradually ascend to morbid irritation with decrease of power, thence to an acute attack of irritation, or of sub-acute inflammatory action. I am confident, therefore, that the experience of that portion of my professional brethren who are practising in the manufacturing districts, or in large close towns, will enable them to bear me out in the assertion, that a very great majority of severe gastric diseases have their rise and progress in an atonic and debilitated state, not of the muscular and nervous tissues of the stomach alone, but of those of the whole frame also.

Furthermore, the division into five varieties, viz., 1st, Atony; 2d, Atony with chronic morbid irritation; 3d, Acute irritation; 4th, Neuralgia or gastralgia; and, 5th, Chronic gastritis, will be found to be as useful in practice as it is in diagnosis; because the treatment will require to be different in each variety when it occurs singly, and when several are complicated together it will be of great advantage to unravel the mode of attack of the various symptoms, so as to enable us to discover in what state of the stomach the first invasion of the disease took place.

I attach some importance to this five-fold division of functional disorders of the stomach, because it is one, if not new, at least

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\* Smellie's Cases in Midwifery, vol. iii. p. 503. London, 1764.

not followed by medical authors; for, whilst I would not affect to teach those who have devoted more time and opportunities to the study of these affections than myself, I may yet be allowed to place the convictions drawn from experience against the principles derived from theory.

Nevertheless, it must be confessed that the order of invasion of dyspeptic attacks is sometimes the very reverse of that mentioned above. Instead of an atonic and merely debilitated state, the nature of the first attack may be that of a sub-acute inflammation, giving rise in its course to neuralgic seizures, or to an acutely irritable state of the organ; and, finally, a permanent atony of the muscular fibre, with derangement of the digesting secretions, may be the result. This is what we so often find to be the mode of termination of inflammatory or congesto-inflammatory attacks of other hollow organs, as the intestines, urinary bladder, uterus, &c.; long-continued congestion of blood in any secreting organ almost invariably changing the secreted fluids either in quantity, quality, or both. It follows, therefore, that all those causes which most ordinarily induce a congestive or low inflammatory state of the mucous lining of the stomach, such as excess at table, sedentary occupations with absence of muscular exercise, the interruption of critical discharges, exposure to cold, &c., may, by operating in the first instance, reverse the order of invasion which I have said to be of most usual occurrence. On this account it is, I presume, that physicians practising amongst a population of robust form and hard tonic fibre, divide gastric disorders into the inflammatory, the atonic, and the irritable, and describe each as independent of the others, and arising separately. Their heroic treatment is an evidence that they regard the inflammatory affection as in most cases the foundation of the other two.

Each method is, however, doubtless true according to the experience and the class of patients which different physicians meet with. The hyperhæmic condition and tonic fibre of the wealthier classes generally, and of that class of labourers who are engaged in out-door employment, tending to the production of diseases with excess of action, call for a decided and vigorous antiphlogistic treatment, as much as the anæmic, atonic, and often scrofulous condition of those whose occupations are sedentary, in-door, harassing to the mind, or who are badly fed and lodged in the midst of the filth and pollution of large towns, requires a carefully modified alterative and tonic treatment for its removal.

In the fourth division of gastric disorders, I have placed neuralgia, to which affection should be restricted the term *gastralgia*, which is used in much too loose and general a sense to denote any very severe and irregular painful affection of the stomach.

The cases of *gastralgia* in which the paroxysms occur in a

distinct manner, without the admixture of any other functional derangement, are rare. We do, nevertheless, occasionally meet with cases in which the attacks of pure neuralgic pain occur at irregular intervals of days or weeks, the patients, during the intermissions, experiencing little or no embarrassment either to the digestive functions or to those of any other of the abdominal viscera. To this form of disease women are decidedly more subject than men, and it is, I think, as often met with after the age of child-bearing as before.\* Children and young persons are seldom the subjects of it. Whatever may have been the state of the stomach, or of the symptoms by which disorders of that organ are indicated, at the time of the first attack of neuralgia we frequently find, when the disease has been of some standing, that the tongue is clean and red, the pulse little or not at all affected, except during the paroxysms; that the face does not show any indications of severe suffering; the flesh firm, and the appetite tolerably good; the digestion being performed more slowly perhaps but not inefficiently.

The time of the attack is frequently in the morning, either before or after breakfast; it may last for one or two hours, and sometimes returns in the evening of the same day. At other times the attack lasts with little intermission for twenty-four or thirty-six hours, and then goes off, leaving the patient much exhausted. The pain is described by the patients as of the nature of cramp, tearing or drawing together the coats of the stomach, or as if the stomach were forcibly held down to the vertebræ. Shooting pains go through to the back, and between the scapulæ; and there are cramps or spasms of the legs, feet, and hands. The extremities are generally cold, and the pulse small and thready. Hot drinks, particularly if the attack come on early in the morning, pressure upon the epigastrium, heat applied to the stomach and abdomen, and mustard to the feet, relieve the pain, as does also the induction of vomiting.

After the pain has subsisted for a greater or less length of time, in many cases vomiting, or rather regurgitation, of a mucous or watery fluid takes place; tasteless, as in water-brash, or acid, acrid, or grumous. With those patients who are accustomed to periodical regurgitations, or water-brash, the attack is chiefly in the morning, after breakfast, and dinner is therefore their last meal. The discharge of this fluid is attended with so much relief, that many patients have recourse to some

\* M. Barras states that gastralgia is more frequently met with in women than in men, and cancer much oftener occurs in men than in women. Out of thirty persons affected with cancer of the stomach, twenty-six were males and only four females. M. Barras also asserts that gastralgia is met with only between the fifteenth and forty-fifth year. I have, however, notes of two very well-marked cases which did not make their appearance until after the fiftieth year, and persisted until near seventy. —*Précis Analytique sur le Cancer de l'Estomac*, &c. &c., reviewed in No. 35, Brit. and For. Medical Review.



method of provoking its ejection, by putting the finger into the throat, tickling the fauces, &c. There is often an irregular or constipated state of the bowels, although cases are sometimes met with in which diarrhoea accompanies the attack of pain. I have observed that some old persons, who are subject to frequent attacks of cholera, also suffer from neuralgia of the stomach.

But, as has been before observed, cases of gastralgia seldom occur in so distinct and uncomplicated a manner as the foregoing observations would seem to show. More usually the symptoms of neuralgic disease are mixed up more or less with those of chronic inflammation of some portion of the stomach or intestines, or of decided organic disease; from either of which it will not always be easy to distinguish it. When gastralgia is the prevailing or primary disease, however, there is not the same constant nausea, loss of appetite, heat and pulsation in the epigastric region, nor the same muddiness of the countenance with yellow tinge of the eyes and foul tongue, as is the case in chronic gastritis. The urine is clearer, and the bowels not so generally constipated as in inflammatory or irritable states of the stomach.

There will, perhaps, be more difficulty in distinguishing the affection at present under remark from organic disease, and especially from scirrhus of the stomach or duodenum. M. Barras has endeavoured to distinguish between these three affections, viz., cancer of the stomach, gastralgia, and chronic gastritis; and when the symptoms are well marked the differential diagnosis may not be very difficult; but we often meet with cases, the origin and mode of invasion of which are either not clearly remembered, or rest in much obscurity, and which possess some of the characters of all three.

The well-marked intermissions in neuralgia, during which the patient is quite free from pain, although of frequent occurrence also in organic disease, yet, when taken in conjunction with the absence of any tumour to be felt in the epigastric region, and of the characteristic sallowness and yellow tinge of the countenance, are the best criteria to distinguish it from cancer of the stomach or neighbouring organs. The length of time, also, during which the disease has often existed without causing much emaciation and general cachexia, will assist us in distinguishing the two affections. As regards the diagnosis of gastralgia from chronic gastritis, I do not know that the latter ever exists without more or less pain on making pressure upon the epigastrium, whilst the former is generally relieved by it. In chronic gastritis, too, the tongue, instead of being clean and red, exhibits either a thin white fur, or else a thick yellow one, or has a clean and baked appearance.

I may here remark, that pyrosis or water-brash, though often treated as a distinct disease by symptomatic practitioners, is, in the great majority of cases in which it occurs, merely a symptom of this disease. Vomiting of watery matters mixed with the

mucus, &c., of the stomach often occurs in an irregular manner, both in the simple atonic condition of the stomach and in morbid irritation of that organ; but in these cases the fluids ejected are generally of an acid or acrid nature, whilst in neuralgic pyrosis they are either tasteless or saline. The regurgitations of atonic dyspepsia seem to be the result of the intermixture of the fluids of the stomach with the abnormal products of digestion, gas, &c.; but the fluid of pure pyrosis (neuralgic) I take to be a secretion from the mucous membrane and follicles of the stomach, for the reason that it is generally ejected whilst the patient is fasting, as for instance the first thing in the morning.

The exact pathological condition upon which gastralgia or nervous disorder of the stomach depends, it would be difficult to determine. In many long-standing cases no perceptible lesion has been discovered; in others a trifling excess of vascularity, or of thickening of the mucous membrane, is all that can be perceived. There is, however, a class of cases exhibiting well-marked features of neuralgic disease, on post-mortem examination of which a paleness and thickening of the mucous membrane lining the stomach is very striking; and I think it is in these cases that obstinate and long-continued water-brash and regurgitations of acid or acrid fluids are the symptoms to which this thickened condition of the mucous membrane gives rise. We may without impropriety regard such cases as of the nature of chronic catarrh, the secretions of the stomach being both increased in quantity and vitiated in quality. Consequently, digestion in these cases is always performed more slowly and with difficulty; and although the injection of some kinds of food and drink is attended with relief to the distressing feelings, yet all solid substances give continued pain and uneasiness. This condition of the gastric mucous membrane I regard as very analogous to the state of the mucous surface of the bladder, uterus, and vagina, in catarrhus vesicæ and leucorrhœa. They are also similar as regards the efficacy of certain medicines in their cure.

The treatment of gastralgia will vary, of course, according as the case may present its characteristic features in a simple and unmixed manner, or more or less complicated with the symptoms of other derangement of the digestive functions; such as inflammatory action, or an atonic condition of the muscular fibre. In many cases, also, organic diseases of the stomach, particularly cancer and contraction of the pyloric orifice, give rise to severe gastralgic attacks; and it will then be difficult to distinguish these intercurrent symptoms from those of the original disease. The state of the patient's health during the intermissions, the absence of malignant disease of other organs, and the *cause*, will sometimes assist us in the diagnosis. M. Barras says that those causes which operate by debilitating the nervous energy of the

system, such as profuse hemorrhages, the excessive use of venesection and other antiphlogistic means, low diet, excess in venery, &c., tend to produce neuralgic disease of the stomach, and not cancer. Gastralgia, he says, does not pass into cancer, though inflammation does.

In the simple cases, then, where the paroxysms of severe pain occur in a distinct though irregular manner, treatment must be adapted to fulfil two indications: first, to relieve the present pain; and, secondly, to restore the functions of the digestive apparatus as much as possible to a healthy state.

It has been a matter of much difference of opinion whether stimulants or narcotics are the most useful remedies for assuaging the anguish of neuralgic paroxysms. A great many patients are in the habit of using alcoholic liquors or aromatic infusions, and generally with considerable relief to the pain; whilst others, taught doubtless by their medical advisers, have recourse to hydrocyanic acid, opium, &c. For my own part, I feel convinced that the application of rubefacients to the stomach, as a large mustard poultice, and of warmth to the surface of the body and the feet especially, and at the same time the exhibition of a mild sedative, will be found to answer best. For the latter purpose, one grain of the extract of belladonna, made into a draught with two drops of hydrocyanic acid and an ounce of camphor mixture, will be a good formula. In slighter attacks, accompanied with liquid or flatulent eructations, half a grain of the extract, made into a pill with four grains of bismuth and a drop of essential oil of peppermint, to be repeated every four or six hours, I have found of great service.

To fulfil the second indication, viz. that of improving the general state of the digestive functions and strengthening the constitution, vegetable bitters and mild preparations of iron, particularly the citrate, along with bismuth and rhubarb, may be had recourse to. Frictions and counter-irritation of the epigastric region, kept up for a length of time, are valuable auxiliaries, as are also out-door exercise and cheerful society.

From the analogy which may be supposed to exist between the condition of the gastric mucous membrane in obstinate and long-continued pyrosis, and the state of the mucous surface of the bladder and vagina in mucous discharges and leucorrhœa, various astringent metallic salts, which are found so useful in the latter disorders, have been applied to the cure of the former. These are the nitrate and iodide of silver; the sulphates of iron, copper, and zinc; the muriated tincture of iron; preparations of arsenic, &c.; and in many cases the exhibition of these remedies is attended with marked success. Great discrimination is, however, requisite to determine the exact cases likely to be benefited by them, as by inattention to this much mischief has resulted from their continued use. In the adynamic state of the muscular fibre

of the stomach and system generally, where neuralgic pains, with obstinate pyrosis, have existed for a great length of time, these remedies are the most useful; but before their exhibition, the tongue should be clean and the bowels unloaded.

In gastralgia, as in most other chronic affections of the stomach, the tris-nitrate of bismuth is the remedy from the use of which the most satisfactory results will follow; and it is remarkable how speedily some of the more formidable symptoms yield to its power. In a case which has come under my observation within these few months past, and in which vomiting of a *clear fluid in the morning*, and of a dark grumous fluid, similar to that which is ejected in cancer of the stomach, *in the evening*, had persisted for several years, so much relief was obtained from the extract of belladonna combined with bismuth, that the vomiting of both fluids entirely ceased from the taking of the *first dose* of the medicine, and did not once return during the exhibition of the same remedy.

In those very numerous cases in which the symptoms of other derangement of the digestive powers complicate those of neuralgia, a more modified treatment will be necessary. If there be nausea and foul tongue, heat and tenderness of the epigastrium, or pain along the course of the small intestines during digestion, purgatives, mild mercurials, and topical bleeding will be often useful. In conducting the after-treatment, however, it will be of the first importance for us to determine what was the mode of invasion by which the disorder made its appearance, and whether the original starting-point was from an atonic and enfeebled condition of the organ, or from excessive irritation, or subacute inflammation.

On the fifth and last variety of functional disease of the stomach, viz. chronic gastritis, it will be quite unnecessary to make any observations. The symptoms of this disease described by the best authors on the subject are, I imagine, the same wherever met with, and, consequently, we do not expect to find that variation in them as in the affections above described. Whatever be the general state of the system, as modified by mode of life and kind of employment, a state of chronic inflammation of the stomach must be combated on the same ground; and in the after and restorative treatment only will any difference have to be made on the score of peculiarity of constitution and habit, engendered by employment in crowded workshops, or residence in close towns and ill-ventilated dwellings.

I cannot close these observations upon the functional diseases of the stomach, particularly in reference to the inhabitants of large towns, without remarking upon the connexion existing between them and that scrofulous taint of the body which exists in so great a degree in the manufacturing districts. The long confinement in a close and unwholesome atmosphere engenders,

in almost every instance, a low and irritable state of all the organs of the body. The system of female labour after marriage lays the foundation for the continued propagation of a race of imperfectly organized beings, upon whose cachectic frames the peculiarly depressing influences of their situation act with multiplied force. Can any one doubt that the appalling amount of infantile mortality exhibited by the registration tables of such districts is intimately connected with these circumstances?—that they stand in the relation of *cause* and *effect*? Her Majesty's Commissioners for Inquiring into the Sanitary Condition of Large Towns have elicited from competent witnesses that much of the mortality of the working-classes is due to want of cleanliness, to the malaria and putrefactive effluvia by which their dwellings are often surrounded, and to want of ventilation in their houses and work-rooms; to damp and unwholesome situations, and the want of proper drainage; and with much justice. Their investigations have rendered this a matter of positive demonstration; and legislative measures are imperatively called for to abate the nuisances which their labours have exposed. Let them not be deceived, however. When we have an effective system of inspection of all public streets, buildings, &c., and the means of enforcing sufficient supplies of pure water and pure air, still there will remain causes of mortality in operation of direful effect, and which call for as peremptory removal and suppression as any which have been exposed. In the town from which I write these observations, 57 per cent. of the population die before attaining five years of age! 57 children out of every 100 born, never arrive at an age when their sensitive faculties are sufficiently developed to enable them to taste the pleasures of mere animal enjoyment! This is a most shocking reflection; and particularly as it is an amount much exceeding the average of any other town in the kingdom. J. R. Coulthart, Esq., in his report to the commissioners upon the sanitary condition of the town of Ashton-under-Lyne, states that he has examined the averages of other towns *similarly situated* to this, and finds that nowhere is it so great. Dr Watts states, that in Glasgow the deaths under the age of five years are 44·58 per cent. on an average of five years ending 1841. Dr Dunkan states, that in Liverpool, where there are 6915 cellar dwellings, 52·8 per cent. was the average for 1839-41; and in Manchester the average for the *whole town* was only 52 per cent. for the year 1841.

It may be supposed that in Ashton-under-Lyne, those causes which have been found to raise the amount of mortality, such as narrow and damp streets, bad drainage, insufficient food, &c., act with more than usual force. But what is the fact? No town in the kingdom has more open, airy, and regular streets, because nearly all are new; the drainage is better attended to

than in most towns; the soil is for the most part dry and gravelly, and the houses are clean and excellent of their kind. Not one hundred cellar dwellings exist. Neither is there a greater amount of distress than usual, but less. The average earnings of the whole of the factory population, men, women, and children, are eleven shillings per week. To three things only can the excess of mortality be attributed;—early marriages, the employment of married women in factories, and the ignorance of the domestic management of a family which necessarily results from the operation of the other two causes. To the labour of girls in factories and other similar places there can be no objection; but the system of employing married females is, to say the least, a barbarous one; injurious alike to the moral and physical welfare of the mother, and murderous to her family. Whilst the infant, left at home in the charge very often of a mere child, is debarred from its natural food for five or six hours at a time, and fed in the meanwhile with indigestible and improper substances, with too often the constant drugging with opiates to suppress its cries, nothing but a cachectic state of the body can result; and rapid emaciation and death soon places the miserable little being out of the reach of its tormentors.

The factory masters cannot be blamed for the continuance of this system; the working classes themselves would look upon the exclusion of their wives from the factories as a hardship, at least in many cases; but if legislative interference were to put a stop to the practice, both masters and operatives would be benefited; and instead of our witnessing a rapidly deteriorating and miserable population, the manufacturing districts would exhibit a race of people, not so rosy and muscular perhaps, but equally as healthy and long-lived as any other towns of the kingdom.

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*Case of Laryngismus Stridulus, in which Tracheotomy was performed with Success.* By ALEXANDER FLEMING, M. D., Edin., President of the Royal Medical Society, and House-surgeon in the Royal Infirmary of Edinburgh.

MARGARET CAMPBELL, æt. seventeen, a servant, was admitted into Ward No. 3 of the Surgical Hospital on 4th June, at half past eleven P. M.\*

It was stated by those who accompanied her to the house, that an hour and a half previously some sand had been thrown into her mouth by a boy, while she was in the act of inspiring.

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\* This case occurred in the hospital practice of Dr Handyside.

Water was procured for her with which to rinse the mouth ; but she had only time to do this once or twice, when she was seized with a severe fit of coughing, and difficulty of breathing ; and the latter, which was from the first characterized by paroxysmal exacerbations, was gradually becoming more and more urgent.

I may observe here that the patient afterwards stated that before admission she had coughed up several particles of sand.

On admission, she was suffering from severe dyspnœa, aggravated in paroxysms, which recurred frequently. In the intervals between the paroxysms inspiration was prolonged and marked by a crowing sound, and expiration was attended with a harsh stridulous noise. The voice was very weak, and the cough had a peculiar prolonged character. The face was becoming livid, and the pulse was very rapid, small, and weak. The epiglottis was carefully examined, and found to be perfectly natural and free from any particles of sand. The patient anxiously besought relief from what seemed to her impending suffocation.

As tracheotomy appeared to me to afford the only chance of preserving the patient's life, the operation was immediately performed ; and a middle-sized tube was inserted into the aperture in the trachea. Immediate relief was experienced by the patient, and she soon afterwards fell into a quiet sleep. Before the introduction of the tracheotomy tube, two or three particles of sand were discharged from the opening in the windpipe.

*June 5, noon.*—The pulse was 104, of moderate size and strength. The breathing was easy, and took place partially by the mouth and nares. Was very little troubled with cough through the night, and she expectorated freely through the tube.

Vini Antimon. f. ʒi.

Sol. Mur. Morphiæ, f. ʒi.

Mist. Camphoræ, f. ʒvii. M.

Sumat ʒi. tertia q. q. horâ.

*Four P. M.*—She complained of pain in the larynx and trachea, which was increased on pressure : twelve leeches were applied over these parts.

*June 6, ten A. M.*—There was much tenderness over the trachea and larynx, and frequent troublesome cough. The pulse was 120, full and firm ; the skin was hot and dry ; there was much thirst and considerable headache ; tongue furred, moist ; bowels open from medicine. The state of the epiglottis was natural. Twenty-four ounces of blood were withdrawn from the arm, with much relief to the pain of the windpipe. The tracheotomy tube was then removed, and she could breathe easily through the mouth and nostrils even when the aperture in the trachea was closed by the finger.

Noon.—The pulse was 130, soft and compressible. The mixture ordered on the 5th was intermitted.

R. Pulv. Jacobi Veri.

Calomel. āā, gr. iii.

Ft. pulvis. Sumat i. sexta q. q. horā.

June 8.—She respired freely by the mouth. The pulse was 120, small and weak. There was still some tenderness (but chiefly superficial) about the larynx, and extending under the jaw on both sides. The mouth had become affected by the mercury. The calomel and antimonial powders were omitted; and twelve leeches were applied over the larynx.

To give a minute detail of the different symptoms which presented themselves from day to day in this interesting case would occupy too much space, and is moreover unnecessary. I shall therefore limit myself to a general notice of the subsequent history of the case.

For about three weeks after the date of last report, the pulse ranged about 120, and was weak and jarring like the pulse of reaction after loss of blood to a large amount. The cough, which was at first very troublesome, had gradually abated.

June 10.—She began to complain of pain on swallowing, with increased tenderness in the region of the windpipe and under the jaw, where distinct swelling was perceptible. This swelling began first under the angles of the jaw, but afterwards extended all round below the chin.

June 22.—Poultices had been constantly applied to the diffuse swelling of the throat. Fluctuation was detected in the part under the chin; and an incision having been made, a large quantity of laudable pus was discharged. She was ordered to have 3 oz. of wine daily.

June 23.—The opening in the trachea was entirely closed.

June 24.—She complained of acute pain of the left wrist, elbow, and shoulder joints, which were tender on pressure. The wrist was red and swollen. She was ordered to take 20 drops of the solution of morphia three times in the day.

June 25.—The joints of the left arm were considerably better, but the left knee was tender on pressure, and the seat of a throbbing pain. The prescription of the preceding day was continued.

July 4.—The joints which had been affected with rheumatism were quite free from pain and swelling. The pulse was 72, soft, and of moderate size. The swellings under the jaw were entirely removed; and there was only a very slight serous discharge from the incision which had been made for the evacuation of the matter. She had been taking for some time past, in addition to the wine and generous diet, simple doses of the saccharine carbonate of iron three times daily, and subsequently a quinine mixture, which had effected considerable improvement in her appetite and general health.



She was dismissed cured, but still rather weak, in the beginning of August.

At the present date (November 16) her health and strength are completely re-established.

*Remarks.*—The opinion which I entertain of the nature of this case is expressed in the title of the paper, but it is proper that I should now detail more fully what I believe to be its true pathology.

When the sand was thrown into the mouth of the patient, a few of the particles appear to have found their way into the larynx. These, although not sufficient to oppose any physical barrier to the free entrance of air, were the cause of irritation, which, exciting a reflex action of the laryngeal nerves, induced spasmodic closure of the glottis. The incident exciters concerned in this process are filaments of the superior laryngeal nerves, while the reflex motors are derived from the inferior laryngeal or recurrent nerves.\*

The patient coughed up some of the particles of sand; but apparently a few had still remained in the larynx, and these were not discharged until the opening had been made in the trachea.

*First,* That the impediment to the respiration was not produced by the presence of a foreign body blocking up the wind-pipe, is of course evident from the fact that no substance sufficient to oppose a physical obstruction to the entrance of air was found there.

*Secondly,* That the closure of the glottis was produced by a contraction of the laryngeal muscles, and not by acute inflammatory cedema, is proved—first, by the difficulty of breathing having supervened almost immediately upon the introduction of the irritating particles of sand; secondly, by the fact that the epiglottis was found to be perfectly healthy; thirdly, by the peculiar character of the breathing and cough, and the paroxysmal exacerbations of the dyspnoea.

*Lastly,* I have to say a few words upon the propriety of operative interference. Had the case been less urgent, the warm bath, antispasmodics, &c., might have been employed, being the operation reserved as a last resource, in the event of the previous means having failed of success. But in this case there was no time for delay; the danger in which the patient lay was too imminent to permit of the previous employment of doubtful remedial means, for the face was swollen and purple, and the pulse was very rapid, small, and weak; and hence the immediate necessity for an operation, by which the obstruction to the respiration would be removed.

The design of the operation was twofold—first, to procure the immediate and free admission of air into the lungs; and,

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\* See the Essay of Dr John Reid on the Functions of the Eighth Pair of Nerves, in Edin. Med. and Surg. Journal, No. 134.

secondly, to afford an exit for the particles of sand which still remained in the windpipe, and whose presence was the cause of the spasmodic contraction of the laryngeal muscles.

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## PART II.—REVIEWS.

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1. *Homœopathy Unmasked, being an Exposure of its Principal Absurdities and Contradictions: with an Estimate of its Recorded Cures.* By ALEXANDER WOOD, M.D., F.R.C.P., &c. &c. Edinburgh, 1844. 12mo, pp. 196.
2. *Defence of Hahnemann and his Doctrines: including an Exposure of Dr ALEXANDER WOOD'S "Homœopathy Unmasked."* London, 1844. 8vo, pp. 92.
3. *Sequel to Homœopathy Unmasked; being a farther Exposure of Hahnemann and his Doctrines, in a Reply to recent Anonymous Pamphleteers.* By ALEXANDER WOOD, M.D., &c. &c. Edinburgh, 1844. Pp. 90.
4. *British Journal of Homœopathy for October, Article (page 411) entitled "Letter to the Editor of the British Journal of Homœopathy, being a Supplementary Note to a Pamphlet entitled 'Defence of Hahnemann.'"*

In a former Number we reviewed, at considerable length, the theory of homœopathy. We pointed out the fallacies by which it is pervaded, and endeavoured to explain the reason why the science of medicine is peculiarly liable to be invaded by the designing and impudent impostor. In that article we reserved for a future number the consideration of the merits of the controversy of which Edinburgh has been the seat; and we now return to the subject for the purpose of showing our readers the nature of that controversy, and the position in which it has left the homœopaths. We presume that the discussion is ended for the present, for we can scarcely suppose it possible that Dr Wood will take any notice of the recent article in the *British Journal of Homœopathy*, which is avowedly the closing manifesto of his opponents. The style of the article referred to is unsatisfactory and pitiful in the extreme, and its subterfuges as contemptible as they are transparent; while the tone is so evidently that of conscious guilt, wincing under recent severe castigation, that, in our opinion, the homœopaths would have better consulted their own interests had they quietly left Dr Wood in possession of the field.

Assuming, then, that the controversy is ended, we proceed, in our duty as public journalists, to examine the manner in which it has been conducted, and to inquire how each party has fulfilled the ends which it proposed.

At the time when the book which stands first at the head of this article was published, homœopathy had attained its maximum spread in Edinburgh. Of its doctrines the public knew comparatively little, and the little they did know was chiefly derived from *ex parte* statements furnished by the advocates of the new system. The medical profession, as a body, understood its leading doctrines, and knowing that these could not for an instant

stand before the light of reason and experience, rested satisfied with this, and explored no further the "transcendental balderdash" with which they were associated. It was impossible for them to feel aught but thorough contempt for such a system, and hence they declined for a time, perhaps unwisely, to expose its absurdities. This task was at length performed in "Homœopathy Unmasked," with what success will become apparent from the short summary we subjoin of the arguments of Dr Wood, the large proportion of which his opponents have never attempted to answer.

In the introduction, Dr Wood repudiates the idea, which a few ignorant of the history of the science of medicine entertain, and which those interested in its overthrow assiduously promulgate, that the members of the profession are dilatory in espousing any discovery which may tend to advance it, and prove beneficial to suffering humanity, either from the newly advanced opinions interfering with some favourite old theory which they have been in the habit of regarding as indisputably true, or because the change of views involved a study and application, in order that their value might be rightly estimated, which they were unwilling to bestow. The profession have, on the contrary, been always alive to any system which promised to add improvement to the practice of medicine, although they have exercised a guarded caution against being led blindfoldly on by what seemed, at first sight, plausible in theory or successful in practice, in a science where there is so much room for mistaken observation.

But the homœopathists have gone farther than this, and have imputed to the profession motives the most disgraceful for not condescending to test *their* system, forgetting that its absurdities are so palpable to our reason, and so contrary to our experience, that no honest-minded physician would endanger the lives he may be intrusted with, in order to put their advancements to experimental proof. We would refer our readers to pp. 22 and 23 of the "Defence of Hahnemann" for a specimen of the contemptible and base insinuations against the honesty of the profession. We feel indignant at the anonymous libel, and envy neither the character nor the feelings of him who penned nor of those who sanctioned it.

Dr Wood, knowing the difficult nature of the ground on which he stood, and the objections that may be started against the legitimacy of his arguments, on the plea that the uncertainties of medicine, and the conflicting opinions that have from time to time agitated the faculty, preclude the possibility of his obtaining satisfactory data on which he may proceed, shows incontrovertibly, that though the *theories* of individuals may have altered, the *facts* have remained the same, and that in medicine "there is quite enough of certainty to avail us in the detection of gross fallacies, and enough of philosophy to render many errors at once apparent."

The first chapter of "Homœopathy Unmasked" commences with a short notice of Hahnemann, and traces his history up to the time when he stood forth to the world as the discoverer of a new and universal law of medicine. And the picture Dr Wood draws of the homœopathic founder is certainly a little different from the perfect specimen of a philanthropist, which the authors of the "Defence" proclaim him to be. The law which forms the grand novelty in homœopathy is, that disease is to be overcome by exciting a train of symptoms similar in appearance to that already existing in the morbid condition of the system, which is expressed in the axiom "*similia similibus curantur*." Granting, in the mean time, that this is true, Dr Wood asks is it *universal*? No—for, if it were true, as the old system proceeds in a direction diametrically opposite in the treatment of disease, a cure by

this means can *never* have been effected ; but statistical facts show, that in proportion to improvement in medicine, in an opposite direction to the doctrines of homœopathy, disease has diminished. Again, Dr Wood argues, if this law be universal, its application must be adequate to remove every curable disease, and recourse would never be had to any other plan of treatment. Homœopaths, however, admit that recourse must be had to other means in certain cases, as emetics in poisoning, and stimulants in syncope. Other instances are given which prove conclusively that the procedure of regular practice is often resorted to by the practitioners and advocates of homœopathy, which, at all events, is abundant testimony that *they* have found it necessary to deviate from the maxims of Hahnemann, and that *they* have proved the line of practice they profess to follow is not even a *general* law, so far from its being *universal*.

Dr Wood proceeds in the second chapter to examine the varieties of evidence upon which truth rests—intuitive, demonstrative, that which rests on observation, and those which we receive on the testimony of others ; and, although the advocates of homœopathy claim for it a place among the “positive sciences,” he shows that its truths are neither self-evident nor demonstrative—not intuitive, because, *first*, the facts from which it starts are not clear and undoubted ; *secondly*, neither are the facts at which it arrives ; and, *thirdly*, the inferences by which these two classes of facts are connected are not deducible from the one class, nor do they lead to the other.

The primary fact which attracted the observation of Hahnemann, and served as the starting-point of his theory, turns out to be no fact at all, but a false conception. Hahnemann says that bark cures ague, and likewise produces fever when given in sufficient doses ; but the fever thus caused is *not* the ague it cures, as it wants the characteristic *periodicity* of its attack. Fully persuaded, however, of the validity of his observations, Hahnemann set about discovering parallel proofs in support of his newly acquired views, and, experimenting upon healthy constitutions, collected an enormous catalogue of symptoms as produced by remedies thus prescribed. Specimens of these symptoms, which make our feelings of pity for the victims of experiment vibrate, are given by Dr Wood under this head, which to any reasonable mind are proofs sufficient that the homœopathic facts here detailed are very far from what our senses can recognise as indubitable. Not only are Dr Wood's exposures in this chapter complete, but they throw a ridicule on the system which it really merits, and which is admirably hit off in his comparison of the symptoms produced by the *decillionth of a grain of vegetable charcoal*, as detailed by Hahnemann, and those which are the effects of a *too liberal allowance of grog*, as described by Christopher North.

In the succeeding chapter, our author shows that, even did we admit the homœopathic facts, the law is not proved, for in certain cases, as mentioned above, they prescribe by the rules of regular practice ; and for the better treatment of chronic diseases, to cure which Hahnemann himself admits homœopathy is inadequate, a new theory was invented, and the patient is to be cured, not by treating the disease with which he is *now* affected, but by directing the sanatory measures against one of “three imaginary diseases, itch, sycoosis, and syphilis,” which *are supposed to have existed* at a former time ! Such is the shuffling uncertainty of the advancements of the homœopaths—such the unsatisfactory nature of the grounds upon which the science rests.

Were we to ask any reasonable man, who was intrusted with the lives

of his fellow-creatures, whether in treating disease he would prescribe for the various symptoms which presented themselves to his view, or endeavour to remove the *existing cause* of those symptoms, his answer would be "tolle causam;" but not so the homœopathists—they direct us to treat the symptoms, and pay no regard to the cause,—in other words, catch the shadow, the substance is not worth having; in this way, the study of pathology, to which medicine is so much indebted, is by many of them strongly condemned, and regarded as worse than useless. The fallacy of their views on this point requires no comment.

Chapter fourth of this excellent and systematic exposure treats of perhaps the greatest absurdity in homœopathy,—the system of infinitesimal doses, and proof *in figures* is adduced to show that, so far from the minutely divided doses being so very powerful as is alleged, they must possess not a shadow of activity at all. Reason and facts prove the soundness of the latter opinion;—but we hurry on to the consideration of the last chapter.

Having proved that the propositions of homœopathy are neither necessary nor contingent truths, Dr Wood considers it as an art, and examines the value of the evidence of the homœopathic witnesses, on whose testimony it must rest its claim for belief. He pronounces and proves them deficient—first, from insufficient knowledge of the fact attested, because the source from which they derive their knowledge cannot furnish definite results;—because the nature of the facts attested is not such as to admit of positive evidence;—because a great source of fallacy in observation is the influence which the imagination exercises in the production and cure of disease, and we have no sure guide to form a right estimate of the true nature of the disease;—and because the enforcement of rigid dietetic rules may often produce a beneficial result, which is erroneously attributed to the infinitesimal doses.

They are also deficient as witnesses in integrity, not in a moral point of view, but "in that strange obliquity of the rational powers, rather than of the moral feelings, which seems to operate in every thing connected with their favourite science;" an error into which all men devoted to any particular theory are apt to fall. Again, the venders of the small doses do not always issue true homœopathic quantities, for, as Dr Wood relates, "the Duke of Canizzino was poisoned by a homœopathic dose of arsenic," which could not have been an infinitesimal quantity. Another method of playing on the public is the manner in which their reports are given to the world, heralding their cures as unprecedented, while all the time the diseases are misnamed, and set forth as something very serious, but which in reality are slight and easy of removal. On the same grounds their *veracity* as witnesses is destroyed, and their multiplicity of asserted facts thereby made worth literally nothing.

A copious appendix is added, containing much additional illustration, which, if embodied in the work, would have tended to obscure the connection of the arguments and the relation of its parts. Additional illustrations of the homœopathic action of simple medicines; cases exhibiting homœopathic treatment; effects of imagination in the production and cure of disease; and an example of the loose method of reporting cases which are treated at the Homœopathic Dispensary, are the principal subjects of remark.

From the summary we have given of the principal arguments employed by Dr Wood against the system he volunteered to expose, it will be seen that its advocates had no mean antagonist to contend with. The manner in which Dr Wood has acquitted himself reminds us of the tactics which a

talented general would employ in conducting a campaign in the territory of an enemy. The first thing attempted is to commence operations against the most vulnerable point of the foe, and oppose a well-disciplined and invincible front of his forces, so that a secure footing may be effected preparatory to more active operations. Dr Wood at once occupies such a position in reference to his opponents, and advances on proof that cannot be questioned that their law is not such as they would have us believe; he fixes himself securely in the very presence of his adversaries, and raises a barrier of sound and solid reasoning, which defies their attempts at an impression. The well-pointed shafts of ridicule seem to us as so many companies of skirmishers, which now and then are let loose on the retiring and exposed flanks of the enemy, causing them more annoyance and vexation than they care to tell us of; but no sooner does the appearance of a more close and serious conflict take place, than the skirmishers disappear, and a line of argument is again presented, which resists all the efforts of the enemy to destroy. The campaign proceeds, and at last the foe, driven from one stronghold to another, however well they may have been artificially fortified, are compelled to beat an ignominious retreat. But not only do we consider that Dr Wood has been successful in his attempts at exposure, but the high tone of honourable feeling which pervades his book is what we were entitled to expect from a member of such a profession as medicine. He directs his observations against the *opinions* of individuals, but never condescends to attack the authors personally. His arguments are as legitimate as they are convincing.

We wish we had it in our power to say so of the character of the reply to "Homoeopathy Unmasked." Writing under the chastisement they had so ably and justly received, and furious from the effects the exposure of their system was producing, a junto of the ablest homoeopaths prepared what they would fain have presented to the public as a refutation of the arguments of Dr Wood, and an exposure of his misstatements and misconceptions. Every page of this unscrupulous performance breathes the most bitter hostility to that gentleman. Misrepresentation, misquotation, and misstatement, are all resorted to, and the authors felt obliged to screen themselves from the ignominy and disgrace which would inevitably have been heaped upon them by every honest-minded man, by giving their production to the world anonymously.

Their object is very evident. They trusted that their low scurrility and their flagrant exercise of the power of personal abuse, with which they are certainly gifted in no ordinary degree, would have intimidated their opponents from again taking the field against them, and that thus the false gloss which they had given to the small portions of their pamphlet really occupied with reply would pass unnoticed and unpunished. We have not space to notice the paltry quibbles they raise, and which they try to invest with the importance worthy of dispute, nor the ingenious trick of which they are so often guilty, of representing Dr Wood's statements in such a light as to seem only to require a few scratches of their pen to prove his errors, so that one perusing their so-called reply, and trusting to their honesty, would really think that they were in the right. They, in short, ascribe to Dr Wood arguments he never advanced, statements he never made, abuse he never dreamt of. But they evidently did not know with whom they had to deal. The "Sequel to Homoeopathy Unmasked" shows that its author was not the man to be daunted by all the vituperation which their offended pride had heaped upon him. He followed up his first

attack by one even more effective, in which he *proved* not only the absurdity of the system, but the dishonesty of its professors.

We can easily conceive that the style of this second castigation must have been much more offensive to the homœopathists than that of the first. The author had supposed the homœopathists to be fools; he now discovers that they are knaves, and he deals with them accordingly. He knows his own position, and will not consent to bandy sarcasms with men of this stamp. He demonstrates their ignorance and exposes their dishonesty with the calm consciousness of a superior. He seeks not to add to the effects of this exposure by the use of strong language or abusive epithets. He takes very different and higher ground, and employs against them an incontrovertible array of facts and authorities, passing by the very many opportunities afforded him of directing against them the "pointed ridicule" which distinguished his first publication, and the power of which even his opponents were obliged to confess. Their abuse never ruffles his temper—their personalities never betray him into anger. His whole style is calm and dignified, till, having thoroughly exposed their ignorance, he, in one powerful sentence, which, coming from an author not afraid to give his name, is worth whole pages of anonymous abuse, thus sums up his opinion of their honesty:—"If, after reading this reply, any one shall feel that we have not stigmatized the 'Defenders' in language sufficiently severe, we entreat such to remember what a mass of abuse we have been compelled to work through, and that, in consequence, even the *more legitimate* epithets of condemnation are for the present associated in our mind with every thing that is mean, low, and scurrilous, dishonouring and dishonest. We have ever wished to draw as broad a line as possible between ourselves and the 'Defenders,' and trust the zeal of the controversialist has not led us to forget the courtesy of the gentleman."

It is a singular peculiarity in Dr Wood's second publication, and one which should entitle it to great weight with the candid supporters of homœopathy, that not only are the positions he maintains supported by the very highest authority in the profession of medicine, but that he has selected his quotations from the very authors whose authenticity the homœopathists have themselves recognised.

If we are right in this estimate of the "Sequel to Homœopathy Unmasked," it is no wonder that the pretended reply which appeared in the *British Journal of Homœopathy* presents the pitiable appearance which it does. We confess our inexpressible disappointment at the article alluded to, which, instead of being a high-toned argumentative production, is a tame unsatisfactory apology for something they made us expect, but which they found themselves unable to produce—a sort of miserable dying groan, that sinks into the most utter insignificance when compared with the giant struggles with which they clung to life in the "Defence." Where, now, is the eagerness with which they pretended in their first publication to bring the discussion before the public! They have retreated from the position which they first occupied, and have sought to conceal their overthrow and preserve their anonymous character, by sheltering themselves in the pages of a journal which few ever heard of, and which still fewer would ever think of opening.

But why, it may be asked, reply at all, unless the reply were to be circulated as widely as the "Sequel?" The answer to this is simple. It was a trick—a paltry trick—and which required means as paltry to bolster it up. The defenders of Hahnemann could not but be aware that

the "Sequel to Homœopathy Unmasked" did them even more damage than the work which preceded it. Now it became a question with them how these baneful effects were to be counteracted. So thoroughly had Dr Wood exposed the character of the former reply, that another in the same style would have been useless; yet what other style could they adopt in dealing with a pamphlet in which facts and authorities were arrayed together in impregnable phalanx! It was advertised—"Homœopathy.—All that is not apologetic in the 'Sequel to Homœopathy Unmasked,' being too small to form a separate pamphlet, will be published in the British Journal of Homœopathy on the 1st of October."

The object of this was evidently to make it appear that Dr Wood's pamphlet was not unanswerable, and to lead those who might not have perused it to imagine that it was a retraction of "Homœopathy Unmasked;" but the meaning of the evasion is a trifle compared with the downright misrepresentation with which it is coupled. We have perused and re-perused Dr Wood's "Sequel" with great care, and we defy the defenders of homœopathy to put their finger on a single expression that by the utmost latitude of meaning can be denominated "apologetic," unless it be found in the sentence we have already quoted, where the author apologizes to his readers for not "stigmatizing the defenders in language sufficiently severe." But this is not the only departure from truth which that short advertisement contains. In it the authors of the Defence pledge themselves to answer *all* that is not apologetic; and yet in their pretended reply they expressly state, that they shall "avoid all notice of any new points of discussion he (Dr Wood) may have raised." This is a tolerable specimen of the candour and honesty of the homœopaths.

There is one striking feature of difference between Dr Wood's reply and the homœopathic rejoinder, which of itself speaks in favour of the former. Dr Wood prints, in full and numerical order, the charges made against him, and then gives us separately and distinctly his answer to each. The defenders of Hahnemann, on the other hand, instead of giving us the charges made against them, present to us their own account of them, and a comparison of this with the original will serve to show how garbled and unfair these accounts of them are. Dr Wood also leaves no part of the defence unanswered. Their arguments are taken one by one, and replied to; their charges against him are similarly disposed of. The homœopaths, again, very conveniently for themselves, decline all notice of arguments against the system, and confine their replies solely to the appendix. Of course we cannot go into the details of the controversy. We shall just quote enough to show that the character of dishonesty and misrepresentation which Dr Wood proved against the defenders of Hahnemann in their first publication, is most amply and successfully maintained by them in their second. We have examined the various works minutely, and had previously no idea of the meanness and unfairness which the homœopaths display. A few examples will show this. They tell us that all that Dr Wood can find to criticize in the British Journal of Homœopathy are certain advertisements for which the editors are not responsible; and yet, on turning to the introduction to the Sequel, we find a charge of gross misrepresentation made and proved against one of the editors of the Journal, not on account of any advertisement, but of a paper bearing his own name (Dr J. R. Russel), which appeared in the first number. They make a great fuss, too, about Dr Wood taking any notice of what they call mere typographical errors, when they made an error of this kind the basis of one of



their longest and silliest tirades, at page 42 of the Defence. Surely they must be unlike other men, to wonder why an honest author should find fault with statements twisted into weapons which his enemies may use with treacherous hands against himself. They next take up the subject of small-pox, but the discussion is much too long to enter upon here; no one can have read the controversy on this disease without being aware of the signal triumph which Dr Wood achieved in the discussion. The allusion to it in the Homœopathic Journal is merely a reiteration of a few of the blundering statements they gave to the world in the Defence, tintured, as usual, with personal abuse. The defenders of Hahnemann accuse Dr Wood of misrepresenting a statement of "Hering's" use of the cautery. Dr Wood replied by showing that he had taken the statement of which he complained from Dr Black, and given it in his very words. The homœopaths excuse themselves in this instance by saying that Dr Wood did not tell them that he was quoting from Dr Black; but on turning to page 31 of Homœopathy Unmasked, we find that Dr Wood not only professed to quote from Dr Black, but has put the whole passage in inverted commas, so that there is no possible excuse for misstatement so direct and palpable.

Our limits will not permit us to exhibit to our readers the numerous misrepresentations of a similiar kind with which this second "Defence" of the homœopaths, short as it is, abounds. But we cannot close our remarks without treating our readers to one or two examples of the deplorable ignorance of the homœopaths, as displayed in this "Defence."

In "Homœopathy Unmasked" (p. 47), Dr Wood, ridiculing the symptoms alleged to be produced by certain remedies, spoke of *angustura*, and showed that though it possessed but feeble powers of affecting the system, yet it was said by Hahnemann to produce the most fearful symptoms. To this the homœopaths reply, that the symptoms in question were recorded by Emmert, a practitioner of the old school. Dr Wood, in his Sequel, shows that Emmert was not speaking of *angustura* at all, but of the Brucea antidiysenterica, or *false angustura*. Now, what is the excuse which these accomplished and literary physicians make for a blunder which would disgrace the merest tyro in medicine? The blunder was not theirs, but that of the French translator of Hahnemann. *They copied it*—poor innocents!—from Jourdan; so that here we have a French and three British practitioners of homœopathy actually ignorant of the difference between a mild tonic and a violent poison. Both these substances, too, are used by them as medicines; so that we see how, in their utter ignorance of the action of drugs, they are in a fit state to believe the ravings of Hahnemann.

Of a similar nature is their blunder about fever. They make no allowance for the difference in type nor for the variety of constitution. Well does every physician know, that no law can be laid down which can regulate the treatment of a disease liable to be influenced by so many adventitious causes. In the first place, how absurd is it to suppose, as the homœopaths seem to do, that, because the disease denominated fever is treated in a different manner by the Parisian, the London, and the Edinburgh physicians, the difference must lie in the medical opinions, and not that these latter are regulated by the type of the disease! When we peruse the writings of the different authors on fever, we see the results of the experience of each of that particular type which has come under his observation; and nothing is more unfair than to twist this apparent contradiction in the writings of medical men to serve the purposes of a faction. But, in the second place, not only does *locality* alter the character of an epidemic to a certain extent,

so as to modify its phenomena conformable to a general type within a certain district where these modifying causes may exist, but *constitution, age, and a number of circumstances* may still farther alter the character of the disease in separate individuals exposed to the same local influence,—so much so, that the members of the same family may require treatment opposed in its nature to each case, according as each case assumes a different type from one or other of the above-mentioned influencing causes; and yet the results of judicious medical skill, thus suited to each party, will be triumphant. But, even granting that the treatment is opposite, regular medicine, not possessing a “universal law,” may have very different ways of treating the same disease. As an instance,—we all know how modes of treatment apparently opposite have been *proved*, by different practitioners, to be efficacious in the treatment of burns. The homœopaths may say that they quite acquiesce in this view of the matter, and are quite aware that disease may be treated in different ways with success; for, at p. 60 of the “Defence,” they say, “But does it not follow that because this is a so-called universal law, it therefore excludes all other curative methods? Does it follow that because all battles are now fought and gained with firearms, no battles were ever gained with spears and cross-bows?” We answer with them, “by no means;” but we assert that with this admission on their part their system falls, and is no longer the exclusive homœopathy of Hahnemann.\*

We shall now hastily notice a few of the charges which Dr Wood has preferred against his opponents in the appendix B of the Sequel, and the manner in which they are answered in the notice in the British Journal of Homœopathy.

From some remarks in the “Defence,” p. 7, the reader is led to suppose that Hufeland supported the system. This Dr Wood thoroughly disproved in the Sequel, by quotations from Hufeland’s works. The Defenders, unwilling to lose this able authority, but evidently having scraped together in the Defence all the proof they could that he supported their views, simply refer us to that publication to reperuse what Dr Wood has already so completely disproved! A similar attempt is made to show that Hippocrates recognised the homœopathic law, but with as little plausibility. Cabanis, too, they attempt to enlist in their ranks; but Dr Wood has shown us that the Defenders have basely torn from his works objections which Cabanis had quoted for the purpose of refuting them, and represented them as his own opinions! There is no answer to this charge, however. We hope that they have found out by this time that there is some truth in the old adage that “*least said, soonest mended*.” The next two charges are misstatements and misrepresentations, for which they apologize; but represent one, and the most important, as a mere typographical error,† while they occupy nearly a page and a half of the Defence in attempting to ridicule the tissue of nonsense they had constructed by their so-called typographical error,—a very convenient excuse, certainly,

\* The homœopaths, in this sentence, forget that cross-bows and guns are weapons analogous to one another; homœopathy and the old system, on the other hand, are diametrically opposite.

† It is strange that these typographical errors, which it is now said might easily have been corrected, stood unaltered in the *second* edition. Dr Wood more than hints, that although the homœopaths boast of a second edition of their Defence being so soon called for, it came without a call. We have now ample proof of this, and their agents are actually now selling the first edition!

for exercising Jeddart justice—first hanging the man, and then sitting in judgment on him afterwards, and discovering his innocency. Dr Wood is next accused of unfairness, in stating that Hahnemann's discoveries "gained some credit with the superficially informed;" but quotes Liebig, who says, that those who embrace homœopathy are "men wholly ignorant of physiology and chemistry, although in other respects rational;" and again, as "men who are totally incapable of apprehending the nature of philosophical investigation,—who altogether miss its true spirit in their attempts to learn,—who cannot therefore read the language of phenomena themselves." The opinion of this great authority is met by no counterbalancing statement from the homœopaths.

For an account of charges made against Dr Wood, and his refutation of them, we must refer to the appendix of the Sequel. We have already noticed two—that of the use of the cautery by Hering, and the passage relating to the employment of angustura.\*

With this view of the controversy before us—and for its fairness and truth we refer to the works at the head of this article—let us now inquire what are the respective merits of each party, and how has each performed the task he undertook? We see, on the one hand, two of the four publications written in a style of dignity worthy the cause espoused and the conduct of a gentleman,—works characterized by no abuse, although the strongest provocation has been given,—in which much talent is shown, and fair convincing arguments adduced,—where sarcasm is treated with fairness, and victory with leniency. On the other hand, we see a publication put forth, every page of which is bedaubed with scurrilous insinuations, where the meanest subterfuges are resorted to, and the most unfair and dishonest advantages taken, by every means which anonymous authors are in the habit of resorting to in defensive publications; this, we are sorry to say, is the character of the first homœopathic "Defence," which they gave to the world in the shape of a pamphlet. Of what character is their second? They knew that another of the same stamp as the first would not do, so they published a letter in their organ, which is the simplest, silliest production which it was ever our misfortune to peruse, made up of apologies, explanations, references, and a few—a very few—of their old personalities. Their last attempt, in comparison with their first, reminds us forcibly of the phenomenon we have all observed in the fuel of a grate on a winter evening: a piece of coal, more rich in gaseous matter than the lumps which lie alongside, sends out a jet of inflammable air, which burns vividly, and, as if proud of its predominant brilliancy, spits and jets its flame for a short while, as did our friends in the "Defence;" but, alas! the flame waxes less and less, and, just as it seems about to sink for aye, gives one or two short asthmatic puffs, as do our friends in their last letter in the Journal, until at last the coal, so shortly blazing, now ceases to give evidence of life, because the internal supplies are at an end, as is the case with those who so lately strove so vigorously. It may be, however, that in the latter case resuscitation may take place; and with this new existence, should it occur, we earnestly trust that the principles of common faith and honesty may take their place, so that their second controversy may be more to their credit than that which we have now reviewed.

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\* It is singular that some of the charges of misrepresentation made against Dr Wood in the "Defence" were proved by him to have been taken from Dr Black. This they now admit, and therefore *they themselves* have proved their own Dr Black guilty of misrepresentation.

*Outlines of Military Surgery.* By Sir GEORGE BALLINGALL, M.D., F.R.S.E.,  
Professor of Military Surgery, &c. Third Edition. Edinburgh, 1844,  
pp. 568.

THE great importance to all those who are pursuing their medical studies with a view to the public service, of making military surgery a subject of separate and special study, is now generally felt and acknowledged. The regulations of the different licensing bodies, by which a course of lectures on military surgery is received as equivalent to one of the required courses of surgery, the preference given by the medical departments of the army and navy to candidates who have attended such a course of lectures, and the success which has attended the prelections of the professor of that branch in the Edinburgh University, sufficiently evince the great practical importance which is now attached to the subject. The publication of a third edition of the valuable *Outlines* of Sir George Ballingall is another proof of the same fact. Indeed, a moment's reflection on the peculiarities of the diseases and accidents to which soldiers and seamen are so frequently exposed, and the special character of the various duties required of the military and naval surgeon, will at once show the importance of this subject.

The work of Professor Ballingall is well known to the profession, and requires, therefore, no lengthened notice from us, although we would be tempted, did not our limits at this time forbid, to review some of the interesting topics which it embraces.

The present edition contains a good deal of new matter; it is illustrated by wood-cuts; and has appended to it a copious and valuable bibliographical list of the works of our countrymen on the diseases and accidents of soldiers and seamen.

The chapters on the accommodation of troops in camp, barracks, and billets; on the proportion of sick and wounded in armies and fleets; and on military hospitals, contain much interesting and useful matter. But indeed the whole work is rendered interesting and instructive by the numerous facts, statistics, and references with which it is illustrated, and by the judicious manner in which the different subjects are treated.

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## PART III.—PERISCOPE.

### ANATOMY AND PHYSIOLOGY.

*On the Relation between the Direction of an Electric Current, and the Muscular Contractions produced by that Current.* By MATTEUCCI and LONGET.

At the sitting of the Royal Academy of Sciences of Paris on the 9th of September, M. Longet read a memoir, composed jointly by M. Matteucci and himself, on the above subject,—the following account of which we translate from the "*Gazette Médicale de Paris*" of 14th September:—

Physiologists, our authors say, have hitherto studied the effect of the electric current applied in different directions, chiefly on the lumbar and sciatic nerves of animals, that is to say, on nervous cords which anatomists

term *mixed*, inasmuch as they contain under one envelope filaments which convey impressions, and filaments which originate muscular contractions. The attention bestowed on this point has shown, that if on a portion of the length of a nerve of this double nature there be made to pass a direct current, or one transmitted from the part of the nerve next the encephalon towards the nervous extremities, contractions take place in the inferior muscles, as well when the circuit is closed as when open; and that the same phenomena are produced by an inverted current, that is, by one directed from the extremities of the nerves towards the encephalon. But there soon arrives another period of some duration in which the contractions take place only in two cases, namely, at the commencement of the direct current, and at the interruption of the inverse current.

Such is the only general law admitted till now as to the relation of the direction of electric currents to the muscular contractions which they excite when made to pass through the nerves of animals still living or just dead. The fundamental discovery of Sir C. Bell on the different functions belonging to separate columns of the spinal cord and roots of the spinal nerves suggested to MM. Matteucci and Longet the inquiry, if this law, established by experiments exclusively performed on mixed nerves, be or be not applicable to parts of the nervous system the action of which is centrifugal only or altogether motor. Their researches have been in consequence directed first to the anterior roots of the spinal nerves and the corresponding columns of the spinal cord.

The anterior spinal root was subjected to direct and inverted galvanic currents under the four following conditions:—1st, The anterior spinal root and corresponding posterior root being left entire; 2d, Both being divided; 3d, The posterior being left entire, and the anterior divided; 4th, The posterior being divided, and the anterior left entire.

In all these cases contractions of the muscle or muscles supplied from the anterior root acted on are manifested, confusedly at first, at the commencement and at the end of the current, whatever its direction; but after a certain time the effects become exact and durable; the contractions now take place only at the commencement of the inverted current, and at the interruption of the direct current.

With regard to the influence of the current upon the anterior and lateral white columns of the spinal cord, MM. Matteucci and Longet have ascertained that contractions take place (after some moments or after the extinction of all reflex action) in the posterior members of an animal (a dog), only at the commencement of the inverted current, and at the interruption of the direct current, that is to say, as in the case of the anterior roots.

As to the lateral columns, they react with the direct and inverted currents first like the anterior, always occasioning convulsive shocks less forcible and enduring.

The following are the conclusions with which our authors sum up their memoir:—

1st, The influence of the electric current differs entirely when exerted on nerves exclusively motor, the action of which is centrifugal only, from that on mixed nerves, the action of which is at once centrifugal and centripetal.

2d, The first excite muscular contractions only at the commencement of the inverted current; while the latter cause these to take place only at the commencement of the direct current, and at the interruption of the inverted current.

3d, The anterior columns of the spinal cord show the same effects under direct and inverted currents as the simple motor nerves.

4th, This remarkable difference between the action of electric currents on nerves simply motor, and that on nerves which are both motor and sensitive, appears to our authors to furnish a sure means of distinguishing nerves of the one character from those of the other; and they think that this method may be made available to settle a question on which there is still a division of opinion among physiologists, namely, whether or not there be nerves of a mixed kind from their origin.

### SURGERY.

*Cancerous Tumour affecting the Sigmoid Flexure of the Colon; Removal of the Tumour and of a Part of the Intestine; immediate direct Union of its presenting Ends.* Cure by M. REYBARD of Lyons.

On the 8th of April 1833, M. le Docteur Reybard was called to a man of twenty-eight, who had been ill for some years. His complaint, however, had increased during the six months which preceded the operation. The principal symptoms were severe and repeated attacks of colic, accompanied by some lancinating pain in the left hypogastric region, which gave place to a constant uneasiness, which increased every day.

When M. Reybard examined him for the first time, he observed these different symptoms, and, by inspection, discovered in addition that the abdomen had an enormous volume, which at first sight exactly simulated an abundant dropsical accumulation. By the touch he discovered on the left iliac fossa a hard tumour about the size of an ordinary apple, deeply situated, and appearing moveable under the fingers, and not adhering to the walls of the abdomen. The increased size of the abdomen was owing to gas; and the course of the colon could be followed, which discovered itself within the wall of the abdomen, and was more distinctly felt than in a normal state. The patient had eructations. His appetite, however, continued good. The stools were rare, and no gas escaped by the anus, but he passed habitually a sanguinolent and puriform matter, the emission of which gave rise to frequent attacks of tenesmus.

Emollient injections, although given in small quantities, were borne with difficulty.

Touch by the rectum could discover no other tumour accessible to direct examination.

The patient was lean, and for some time he had had every day shivering, and his nights were passed without sleep. These last symptoms, however, were principally developed during three months, a period when, says the author of the observation, the tumour had been converted into an abscess, as was announced by an evacuation of pus, after which the local pain was sensibly diminished.

M. Reybard, relying upon the results of the *palpation*, as corroborated by the concomitant symptoms, concluded that there was in this place a carcinomatous tumour, and that it evidently occupied the iliac portion of the sigmoid flexure of the colon.

Persuaded of the incurability of the disease if left to itself, he decided to attempt an operation, and, on the 2d of May, he proceeded in the following manner:—

The patient being laid upon his back, M. Reybard made, above the anterior and superior spinous process of the ilium, parallel to the crest, and an inch

from it, an incision of six inches, which divided the tissues layer by layer. Ligatures placed upon the vessels arrested the blood as soon as it began to flow.

The peritoneum was carefully opened to the extent of about three inches.

The tumour, although with great difficulty, was brought outwardly. Two ligatures, enclosing between them a considerable extent of the mesocolon, were placed to prevent hemorrhage.

The intestine was slit with a bistoury for the length of about three inches, and the mesocolon was cut with scissors. The arteries of the intestine were tied, and the ligatures were kept long to be introduced into the cavity of the digestive tube. Before commencing the suture, M. Reybard prepared two needles threaded with doubled fine silk; the thread in one of these needles had, instead of a knot, a little roll of *charpie*, about the size of the head of a pin. Both of these were waxed.

"When," says M. Reybard, "I had placed in contact the two ends of the intestine, I fastened them together near their mesenteric edge with the thread of the first needle, which was secured by a double knot. Here the suture (overcast) began. I then prolonged it to the middle of the incision, with the precaution of making it tight and of drawing the spires nearer. I then cut the thread at seven or eight lines from the intestine; then I fixed it, not by making a knot, such as a suture is terminated with, but by inserting it or catching it between the new stitches of the suture, which I managed with the second needle, the thread of which served me to finish the operation.

"When this was finished—that is, when it was carried again just to the mesenteric edge of the intestine—I fastened the thread in knotting together with a double knot the two ends which composed the needleful; then, after having doubled them, and traversed with one of them one of the lips of the wound, I purposely included, to fasten the thread, the peritoneal coat only of this lip, in order that, being more quickly cut, the ligature might become free sooner at this side of the suture than at the other. This last knot being made, I cut the threads close to the wound."

The suture finished, M. Reybard replaced the intestine deeply in the abdomen for the purpose of putting it far from the wound. This was fastened together by three stitches. The treatment consisted in an emollient regimen. All passed on well up to the fifth day after the operation. Then there came on unexpectedly tympanitic distention and pain; the lips of the wound separated about six lines. Leeches were applied, and cataplasms and emollient injections were used.

On the ninth day he was clearly better. He had as yet no stools. He was allowed a little soup.

On the tenth the ligatures of the abdominal walls were withdrawn, and, after an injection, he had a plentiful stool, which was not examined. The abdomen was not painful; he continued better, and went on improving.

Thirty-three days after the operation he took solid food, went naturally to stool, passed wind by the anus, and the cicatrization of the wound was complete. It was not until the end of six months that the young man felt lancinating pains, not lasting long, and some sense of constriction and uneasiness in the left iliac region. Soon, however, the pains became more violent, the return of the tumour was certain, and at the same time considerable pain was felt in the corresponding thigh and leg. Joseph Valesnaud kept his bed for two months, and died upon the 16th of March 1834, nearly a year after the operation.

There was no post-mortem examination. M. Reybard then describes

the excised tumour :—" It was as big as a large rennet-apple, hard, and of a whitish gray. It presented many tubercles, more distinct to the touch than to the eye. It occupied the two posterior thirds of the intestine, open in front in the direction of its length ; the cavity of the intestine had lost the half of its size." M. Reybard did not show us this preparation, which he had mislaid long ago.—*Annales de la Chirurgie Française et Etrangère*, Août 1844.

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*On the Treatment of Inversion of the Nails.*

I. Dr EMMERT (Beiträge zur Pathol. u. Therap., Bern, 1842) distinguishes two classes :—1st, Where the nail grows into the flesh. Here the disease is caused by deformity of the nail, which is either too thick, too broad, or too strong, and therefore enters into the soft parts even without any external pressure. This deformity of the nail is caused either by pressure from the side on, or by improper cutting of the nail. The hypertrophy is caused by disease of the matrix, and is often connected with general ill health, arising spontaneously, and coming easily back if the root of the nail be not destroyed.—2d class, Where the disease commences by flesh growing over the nail. The nail is, in this case, properly shaped, and inflammation and swelling of the soft parts are caused by external pressure, and at last the nail is covered over by fleshy excrescences. This variety of the disease is caused by too tight shoes, and generally occurs on the outer side of the great toe. Young full-blooded persons are predisposed to it, and any sharp corner of nail may act as an exciting cause. If the inflammation continues, the matrix becomes diseased, thus passing into the first variety.

The treatment will depend on the cause. When the soft parts suffer, Dr E. recommends them to be paired so that they cannot exercise injurious pressure on the margin of the nail.

II. Dr Zeis, in his surgical essays (Dresden, 1843, p. 69), says, that too short cutting of the nails is the first exciting cause of the disease, but that it can also be caused by too tight shoes, particularly when the soft parts are preternaturally soft. In this case mineral washes are often serviceable. In the first case, when the nail has been cut too short, allow it to grow, and in order to hinder it from again growing into the flesh, place a little cotton below the nail, and keep it *in situ* by means of goldbeater's skin. Bathe the feet frequently in warm water. If, notwithstanding these means, the flesh still grows over the skin, Dr Zeis cuts it off. In two or three months the nail resumes its natural form. In worse cases, where a nasty swelling (*geschwür*) takes place below the nail, it may be necessary to remove that portion of it that is loose to prevent its acting like a foreign body, and in order to get at the swelling ; but in no case is it necessary completely to extirpate the nail.

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*Creosote in Nævus Maternus.*

Dr THORNTON informs us that of all the applications he has tried against *nævus* (telangiectasis), the most effectual is creosote. He had treated three cases in the course of the year successfully with this substance. It is applied two or three times daily, more or less diluted. Excoriation, ulceration, and gradual disappearance of the *nævus* ensues ; the cicatrix had always been smooth and sound.—*Medicinische Zeitung*, No. 9.



## MATERIA MEDICA AND DIETETICS.

*Tannin against Hooping-Cough.* By M. SUBREGONDI. *Tannin against Sore Nipples and Toothache.* By Mr DRUITT.

M. SUBREGONDI strongly recommends tannin in hooping-cough after the period of excitement has subsided. His practice is to give from a quarter to half a grain every two hours along with some calmant, as the extractum conii. As a purgative during this treatment he uses chiefly the infusion of senna.

It is not stated how the tannin which he employs is obtained. That first used in medicine appears to have been obtained in a state of imperfect purity from powdered oak-bark, by means of lime-water and nitric acid.

It is better obtained from powdered galls, by means of ether,—either by the method of Pelouse or that of Leconnet. The method of Pelouse is by a kind of percolation,\* that of Leconnet, by maceration of the gall-powder for twenty-four hours in ether, and then applying strong pressure, and if these steps be repeated several times, it appears that 60 per cent. of tannin may be obtained from galls.†

Tannin has been recommended in passive hemorrhages and profuse mucous discharges, in marasmus, chlorosis, &c. ; but it is doubtful if it have any advantage over catechu, kino, or the extract of logwood.

There is a paper, however, by Mr Druitt of London, in the number of the Provincial Medical Journal for 9th October, "On the Uses of Pure Tannin." He does not use it internally, though he thinks it would prove an admirable internal remedy in menorrhagia and hematuria. "The cases in which I have used it," he says, "are sore nipples, excoriations about the anus and scrotum, piles, leucorrhœa, atonic phagedenic sores, toothache, aphthous sores in the mouth, severe salivation, and relaxed sore throat ; but his chief commendations in its favour are in the case of sore nipples and in toothache. For sore nipples five grains are dissolved in an ounce of distilled water, and this solution is applied to the nipple on lint covered with oiled silk.

His mode of employing it in the case of toothache from carious teeth is as follows:—The mouth is to be washed thoroughly with a solution of carbonate of soda in warm water ; the gum around the tooth is then to be scarified with a fine lancet, and a bit of cotton wool imbued with the following solution is to be put into the cavity:—

Take of Tannin, 1 scruple.

— Mastich, 5 grains.

— Sulphuric Ether, 2 drams. Mix.

"If the ache is to be cured at all," he says, "this plan will put an end to it in nine cases out of ten."

*On the Employment of the Seeds of the Castor-oil Plant as a Purgative.*

By M. MIALHE.‡

WE would dissuade our readers from listening to M. Mialhe's proposal. Castor-oil is to be prized for the particular mildness of its operation ; and we have often had occasion to observe the rashness with which in past

\* See Kane's Chemistry, p. 1008.

† Christison's Dispensatory, p. 458.

‡ Journal de Pharmacie, Oct. 1844.

times speculative writers on the properties of drugs have suggested the use of the entire seeds, as being an effectual purgative and taken with the greatest ease. The seeds in their entire state do purge, but are far from mild, occasioning usually much griping, nausea, and vomiting, even a single seed being sometimes found to produce such effects.

M. Mialhe's proposal no doubt differs in so far that the testa of the seeds is to be removed and an emulsion formed of them. We doubt if even with this precaution the effect be much less irritating than that of the entire seeds. The very foundation of our author's proposal is, that in the oil there is little or none of that oleo-resinous substance which Soubeiran discovered in the seeds, and that the whole of this is contained in the emulsion. We believe it to be owing to the entire absence of this oleo-resinous matter that the cold-drawn castor-oil is so much prized. We do not doubt that the presence of Soubeiran's oleo-resin adds much to the severity of its action; and of this M. Mialhe's own experiments are a sufficient proof. He describes the effect as emetico-cathartic. By an emulsion made of two and a half drams of the blanched seeds, twenty-eight vomitings and eighteen alvine evacuations were produced; and from an emulsion made with one dram a brisk emetico-cathartic effect was produced. He says, to be sure, that an emulsion made with from three to five grains is one of the most agreeable of purgatives to the taste.

We have no doubt of the stronger effect of such an emulsion than of the simple oil on the bowels, but we would have it distinctly understood that the seeds under any form of preparation have no title to rank like the oil among safe and gentle purgatives.

#### PATHOLOGY AND PRACTICE OF MEDICINE.

*Phlegmasia Dolens in Males.*—MR GREENHOW (Prov. Journ.) relates a case where this disease occurred in a young man who was operated on for stone in the Newcastle Infirmary; and the Editor of the Medico-Chirurgical Review relates another where it succeeded sloughing of the sacrum after fever.

*Treatment of Bed-Sores.*—Dr Graves (Clin. Med., p. 136) recommends a nutritious diet, wine, and the sulphate of quinine. The sores to be washed night and morning with a solution of chloride of soda, in the proportion of 20 or 30 drops to an ounce of water. A liniment composed of two ounces of castor-oil and one of balsam of Peru is to be applied on pledgets of linen, and covered with a poultice of linseed meal two or three times a-day.

A writer in the Medico-Chirurgical Review recommends as a prophylactic a solution of creosote, one part in 80 of water; if the skin should break, the zinc or lead ointment to which camphor has been added; and in still more obstinate cases, an ointment composed of 4 parts of fresh prepared tannate of lead and 30 of lard. A writer in Walther & Ammon's Journal recommends a lotion composed of equal parts of spirits of camphor and Goulard water.

*Sciatica.*—Dr Hunt in his recent work on the nature and treatment of tic douloureux, sciatica, and other neuralgic disorders, describes three varieties of sciatica:—1st, Acute inflammation of the nerve. In this the pain is very severe, and is attended with high febrile symptoms. The first object is to reduce the inflammation, which is to be effected by cupping, brisk mercurial purging, followed by salts, senna, with vinum colchici. The pain is seldom

reduced in proportion to the subsidence of the fever. After the reduction of the fever, the following powder may be given every six hours, with some diuretic, and an extra dose of opium at night if necessary, repeating the black draught every second morning.

R. Calomel, gr. ii.

Pulv. colchici, gr. iv.-vi.

Pulv. Doveri, gr. v. M.

If the pain should still continue severe, blistering must be had recourse to.

The chronic form of the disease is often distinguished with difficulty from the acute. When nocturnal fever, with scanty high-coloured urine is present, it assists the diagnosis.

Calomel and colocynth followed by castor-oil often bring away hardened fæces, and the perseverance in purgatives in some cases relieves the disease. In general, however, mercury is required. Dr Hunt employs the following formula :—

R. Hydrarg. phosph., gr. i.

Opii., gr. i.

Antim. tartar. gr.  $\frac{1}{2}$ . M. ft. pilula omni nocte sumenda.

If much fever be present, moderate doses of nitre with colchicum three times a-day, with occasional aperients, should be given. If there is much exhaustion of strength and emaciation, the compound decoction of sarsaparilla during the day, with the liquid extract, should be exhibited, with the mercurial pill at night. Counter-irritation is especially useful.

Where pain returning in paroxysms like electric shocks is the only symptom, it should be treated like pure neuralgia, first by purgatives, then steel, quinine, or arsenic with sedatives.

*Colchicum and Opium in Rheumatism.*—Dr Hauff of Kirchheim has for eleven months employed the opiate wine of colchicum, according to the formula of M. Eisenmann (wine of colchicum seeds 3 pounds; tincture of opium  $\frac{1}{2}$  a pound—dose, 20 to 25 drops every two or three hours). In all ages and sexes, and every form of rheumatism, he has found it beneficial, without producing either sweating or purging, though usually the urine is increased in quantity, and deposits a lateritious sediment.

We have long been in the habit of using the following prescription in acute and sub-acute rheumatism, and can answer for its efficacy in many cases.

R. Vini semin. colchici.

— antimonialia.

Tinct. opii. camphor., aa  $\mathfrak{z}$ ss. M.

Sign, A teaspoonful every third hour.

*Statistics of the Asylum for the Insane at Wirtemberg, from 1840 to 1843.* By Dr ZELLER.

DURING the first three years of the existence of this institution, of 174 patients, 65 were cured. In the three succeeding years, of 213 patients, 111 were cured; and in the three last years (1840-43), of 258 patients, 93 were cured, 79 were improved, 59 dismissed incurable, 36 died.

Of 647 patients treated in the nine years, we find in each 100, 40 cured, (23 men, 17 women) 24 improved (16 men, 8 women), 23 uninfluenced by treatment (15 men, 8 women), 13 deaths (9 men, 4 women).

Daily experience confirms the fact, that the more recent the insanity, the greater the chance of cure. This is exhibited in the following table :—

Duration of disease, 6 months.	No. of patients, 84	Cured, 87	Improved, 14
... .. 12 ...	... .. 57	... 20	... 16
... .. 24 ...	... .. 44	... 8	... 20
... .. 36 ...	... .. 27	... 6	... 9
... .. 48 months and } upwards.	... .. 36	... 4	... 19

During nine years there were 73 deaths (48 males, 25 females).—*Medicin. Corres. Von Stuttgart.*

*Contraction of the Foramen Lacerum Posterius in the Insane and Suicides.*

PROFESSOR KASLOFF of Kieu, believing that insanity, more especially when chronic, depends upon congestion of the brain, and that this is probably the result of some mechanical obstacle to the circulation, has been for some years occupying himself with an investigation of the subject. He has found in the skulls of the insane (more especially of those who have committed suicide in the paroxysm of mania), one, rarely both, of these foramina contracted in the part where they give passage to the internal jugular vein. In one case, the opening was not more than a Parisian line in diameter. Professor K. has also ascertained the following anomalies:—1st, The posterior condyloid foramen is often contracted or obliterated on the same side as the foramen lacerum. 2d, The foramina giving passage to the emissary veins, as the mastoidean and the parotidean, are almost constantly dilated, or more numerous than usual. Where the contraction of the jugular is not thus compensated for, the skulls were thicker, harder, and heavier than usual, and their apophyses and prominences more developed. 3d, In the sinuses and their neighbourhood on the internal surface of the cranium, M. K. found in several cases calcareous incrustations similar to those which have been recently described as occurring in women dying in child-bed. These were numerous in proportion to the amount of contraction. 4th, The osseous prominences on the internal surface of the skull were in general more marked, and occurred in unusual situations.

M. Kasloff has found the foramen lacerum posterius of one or the other side contracted in all the individuals affected with suicidal mania whom he has examined. By the contraction, the sinus which empties itself through it is dilated, forms supplementary connexions with other veins, and thus the venous circulation of the head is deranged and the intellectual faculties disturbed. M. K. is of opinion that suicide does not occur in the young on account of the cartilaginous nature of the foramen, which prevents its contraction till ossification is complete. He is of opinion that this contraction explains the hereditary nature of suicide, from the resemblance of organs. Blows on the head, acting principally on the base of the skull in the neighbourhood of the foramen, may thus give rise to the inclination to commit suicide. The contraction of the jugular is always in connexion with organic diseases of the right ventricle of the heart, and the irregularity of its action described as occurring in maniacs by Rush, Foville, Georget, &c.—*Oppenheim Zeitschrift.*

*On the Influence which Vaccinia and Variola mutually exercise on one another.*

M. LEGENDRE, in a paper of some length in the Archives Générales for September, has made some interesting observations, illustrated by cases, on

this subject. We regret that we can only afford room for the general conclusions at which he arrives.

1st, When a variolous eruption occurs one or two days after the appearance of the vesicles of vaccinia, that is to say, on the fourth or fifth day after vaccination, this apparent anomaly is in general to be explained by the existence of a prevailing epidemic, or by the individuals having contracted previous to vaccination the poison of variola.

2d, Where an infant is exposed to the variolous contagion, vaccination will appear to favour the evolution of the disease.

3d, In infants under four years, vaccination performed during the period of incubation of variola, appears generally to modify the latter disease.

4th, Vaccination is modified by the occurrence of variola. The vesicles ripen more slowly, the surrounding areola is less marked, and there is not so much sub-cutaneous engorgement.

5th, The more advanced and regular the vaccination is previous to the evolution of variola, the more marked is its advantageous influence.

6th, Vaccination practised during the first stage, or on the first day of variolous eruption, may proceed, but does not appear ever to modify the disease.

7th, Where young weak infants, or those enfeebled with disease, are exposed to variolous contagion, it is necessary to be guarded in vaccinating them. In fact, vaccination practised in these circumstances tends to the evolution of the variola, which, however modified may be its form, is always to be dreaded on account of the weakness which it engenders.

## MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

*Large Congenital Umbilical Hernia cured by Operation.* By Dr KREBS of Jüterbog.

A MALE child, weighing  $7\frac{1}{2}$  lbs., and measuring in length 19 inches, was born with an umbilical hernia  $14\frac{1}{2}$  inches in circumference, tense, perfectly transparent in its coverings, and seen to contain the liver, the stomach, and the greater portion of the intestinal canal. The hernial covering did not unite with the abdominal parietes, but they overlapped it all round with an edge of a deep red colour; from the inferior part of this ring depended the umbilical cord, of the usual length and appearance. In all other respects the child seemed well formed, and to enjoy good health. For the first two days the hernial sac was simply covered with charpie and a compress. On the third day Dr K. was able to reduce the hernia, and the viscera were retained in their place by the hand of the nurse, until, with a bistoury, he paired the edges of the abdominal parietes, and brought them together with twelve sutures, which he supported by adhesive plaster. For two days succeeding the operation, the child appeared restless and the issue of the case doubtful; the wound, however, united by the first intention, and from the third day the case proceeded favourably.—*Medizin Zeitung*, 1843, No. 49.

### *Vomiting of Meconium.*

A WOMAN, æt. twenty-four, was delivered of her first child at 10 A.M., a male, and well formed; the liquor amnii was thick, dark, slimy, and con-

tained a considerable quantity of meconium, with which the foetus was also plentifully besmeared; a quantity of this matter was also taken from the child's mouth. Towards evening meconium was sparingly excreted by stool; on the following morning about half an ounce (perfectly pure) was vomited, and again during the night, between two and three drachms, the infant at the same time passing a stool of the natural yellow colour. There was slight fulness in the region of the liver, and motion appeared to cause pain; beyond this there was nothing unusual, and the child left the hospital with its mother in perfect health.—*Medizin Zeitung*, 1843, No. 49.

#### *A Vermifuge Liniment.*

THE following liniment is used in some parts of France, with much success in cases of worms, being rubbed on the abdomen.

℞ Ol. Ricini, ℥ix.

Ol. Absinthii, ℥ss.

Ol. Tanacetii, ℥ss.

Tinct. Filicis Maris Aether, gutt. xx. M.

Its efficacy may be much improved by macerating a small quantity of garlic in the ol. tanacetii.—*Journal de Médecine*.

### FORENSIC MEDICINE AND MEDICAL POLICE.

#### *Death from external Application of Corrosive Sublimate.*

A CHILD, æt. two, was affected with some slight excoriations in the groin, which the mother was in the habit of dusting with pulv. lycopod. One day she took by mistake for the vessel containing the lycopodium, another in which was some impure sublimate, yellowish in colour, and not unlike in appearance to the substance for which it was taken; this she sprinkled over the right groin, inner surface of the scrotum, and upper part of the thigh on the same side. Immediately the child became restless, and cried violently; in twenty minutes a brown slough had formed on the parts; separated from the uninjured skin by a reddish, smooth, and semitransparent swelling, about two-thirds of an inch in breadth, and not unlike a ring of urticaria. A bath was ordered for the child, in which it remained an hour; this was repeated three times in twelve hours. Thirty-six hours after the application of the poison, the slough was black, and dry in the centre; a reddish line of demarcation had formed, the ring resembling urticaria had disappeared, and about the edges of the slough were several phlyctenæ filled with pus; the scrotum was dark red, and exceedingly tense. In three days the slough on the scrotum began to separate, the child exhibiting no marks of febrile reaction, or of gastric disturbance. On the evening of the second day the gums appeared painful, were considerably swollen, red, and together with the edges of the tongue were covered with whitish flakes. On the sixth day, the whole mucous membrane of the mouth was affected, grayish sloughs appeared at different points of its surface, and under these the muscular substance seemed fungous, and bled. At length gangrene of the mucous membrane of the upper jaw supervened, the edge of the bone was laid bare, and some of the incisor teeth fell out. The breath was excessively fetid; but the ptialism was not remarkable, as the child always swallowed its saliva. Considerable hemorrhage had occurred from some sloughing spots. On the thirteenth day several pustules, filled with pus, appeared on the face and nose, and on the fifteenth day the child died. During the whole course

of the affection the child had no signs of gastric disturbance, except vomiting of the blood which it had swallowed from the ulcers in the mouth. On examination after death the alveolar processes and the palate portion of the upper jaw were found bare; the mucous membrane of the mouth was much swollen, the parotid glands were not increased in size, but the submaxillary glands were somewhat enlarged, soft, and pale; the stomach and intestinal canal were unaltered in appearance.—*Journal für Kinderkrankh.* Bd. ii. hft. 2, s. 129.

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## PART IV.—MEDICAL MEMORANDA.

### DEATH OF DR ABERCROMBIE.

THE event we are going to record, though deeply affecting this city, is far from being of a merely local interest. The death of our eminent townsman Dr Abercrombie concerns the medical public without distinction of place.

As most of our readers are already aware, this unexpected event took place on the morning of Thursday, 14th November, without any previous warning. He had breakfasted as usual with his family; his carriage came to the door about ten o'clock to carry him to his visits; he went into his dressing-room, and staying longer there than was customary with him, he was sought for and found on the floor, with hardly a remaining sign of life. *In eo conclavi est latrina; atque hinc exiens, repositis vestimentis in iustum ferme modum, ad fores considerat.*

It seemed unlikely that an attack so quickly fatal should be apoplectic. Accordingly the probable cause of his death was much canvassed among the members of the profession on Thursday and Friday and on Saturday morning.

On the Sunday preceding, it was understood, he had confined himself to his house on account of a cold. On that day a medical friend came at his request to see one of his servants who had a sore throat of an aphthous tendency. On going up stairs together to the servant's chamber, at the highest part of the house, his friend remarked that he stopped more than once to rest, and being struck with this in him, as he was all his life particularly alert in climbing our long Edinburgh stairs, asked if his breath was affected; he said no, and ascribed his stopping to mere fatigue. On that day his pulse was felt to be calm and regular. On the three following days he made his visits as usual, and on the Wednesday evening it appears he was particularly cheerful, telling his family that he felt now quite freed from his cold.

It was remembered that three years ago he was suddenly taken ill with what was thought by himself to be a threatening of palsy. On that occasion it is true he complained of a numbness in his limbs, but the loss of motion was equivocal, and several of his medical friends resisted the idea of there being any tendency to palsy shown in that illness. There is good reason however to believe that for some time after he resumed his visits he slightly dragged one leg in climbing a stair.

On Saturday afternoon an end was put to all conjecture by the inspection of the body. The brain was not concerned in his death. It was owing to a sudden discharge of blood upon the heart by the bursting of a small coronary vessel.

The minute of the inspection is not made public up to this time ; but we will answer for the accuracy of the few particulars we are about to mention.

There was a large quantity of blood in the pericardium. The pericardium itself was healthy, and the heart and great vessels were free from any change of conformation beyond a slight dilatation of the left ventricle. The substance of the heart was very soft, and easily pierced. The immediate cause of the seizure, so quickly fatal, was, beyond doubt, a sudden extravasation of blood, which was traced to a ruptured vessel on the posterior aspect of the heart, not very far from the apex. This vessel proved to be a *coronary vein*. The aperture did not exceed the twelfth part of an inch across. In the coats of the vein there were no perceptible marks of alteration. But the coats of the coronary arteries, as far as these were traced, exhibited everywhere that atheromatous degeneration which precedes ossification.

The other principal organs of the chest and abdomen were on the whole of a natural aspect.

In the head there was no vestige of an apoplectic attack ; but the coats of the blood-vessels at the base of the skull were everywhere in the same atheromatous condition as those of the coronary arteries. The brain, it is said, weighed sixty-three ounces—only a single ounce short of one of the largest recorded, namely, that of Cuvier.

Thus, Dr Abercrombie's case was one altogether analogous to apoplexy in its essential nature. It was a sudden extravasation of blood, acting, not on the brain, but on the heart,—a pathological state much more justly entitled to be termed an apoplexy of the heart than most of the so-called apoplexies of the lung are to rank under that head.

The state of the cranial blood-vessels shows that this eminent physician must have been living, for some time past, in momentary danger of an attack of cerebral apoplexy of that fatal character which originates in brittleness of the vascular coats ; and that he escaped that event only by the more rapid progress of the same kind of morbid action in the nutrient blood-vessels of the heart.

The funeral took place on Wednesday 20th November. On the way from his house in York Place to the burying-ground of the West Church the procession was joined by the Fellows of the two Royal Colleges, who had assembled in the temporary Hall of the Royal College of Physicians at the west end of George Street. Dr Abercrombie was sixty-four years of age. His father was the Reverend Mr Abercrombie, one of the ministers of Aberdeen. He took his degree in medicine at Edinburgh in 1803, and having become a Fellow of the Royal College of Surgeons in 1804, he engaged in general practice, and quickly rose to reputation. It was not till near twenty years after he took his degree, that, having joined the Royal College of Physicians, he began to act as a consulting physician. And in that capacity, the reputation which he had acquired before gained additional lustre.

Dr Abercrombie spared no pains on the scrutiny of cases in which the diagnosis was obscure—in ordinary cases his visits were often very short, and this his patients sometimes felt. But this rapidity was for the most part indispensable to ensure that punctuality for which he was distinguished. In keeping his appointments, and in all that concerned his deportment towards the general practitioner, he was the model of a consulting physician. He never failed in an appointment even with the youngest practitioner without having given timely notice of his inability to keep the engagement.

If Dr Abercrombie led a busy life in the practice of his profession, he



was not idle in his hours of leisure. He looked upon the study of morbid anatomy as the only solid basis of medicine. To this subject he devoted himself at an early period of his career—at a time when the attention bestowed on such investigations, on the Continent as well as in this country, fell very far short of what we see at present. The fruits of these studies were given to the world in various papers in the *Edinburgh Medical and Surgical Journal*, and in the *Transactions of the Medico-Chirurgical Society of Edinburgh*; and many of the same subjects were afterwards embodied in his medical works, namely, “*On Diseases of the Brain and Nervous System*,” and “*On Diseases of the Stomach*,” &c. Before the publication of the former in this country, a work in German in Dr Abercrombie’s name, on the same subject, was published at Heidelberg by Neumann—the materials being collected from his papers in the *Edinburgh Medical and Surgical Journal*.

His papers in the *Edinburgh Medical and Surgical Journal* down to 1822 are as follows :—

1. Cases of Cynanche Laryngea. 1816.
2. On Tobacco Injection in Dysuria. 1816.
3. On Diseases of the Spinal Marrow. 1818.
4. On Dropsical Affections successfully treated by Blood-letting. 1818.
5. On Chronic Inflammation of the Brain and its Membranes. 1818.
6. Cases of Severe Dyspnoea in Children connected with a singular Affection of the Throat. 1819.
7. On the Pathology of the Intestinal Canal. 1820.
8. On the Pathology of Consumptive Diseases. 1821.
9. On Ischuria Renalis. 1822.

In the *Edinburgh Medico-Chirurgical Transactions*, 1824, we find “*Contributions to the Pathology of the Heart*,” and “*On the Nature and Origin of Tubercular Diseases*.” His two works, “*Inquiries concerning the Intellectual Powers*,” and “*The Philosophy of the Moral Feelings*,” the former of which has reached a tenth, the latter a sixth edition, contain a plain exposition of the most valuable parts of the philosophy of mind, enriched with many facts drawn from his own observations in his intercourse with the sick.

Dr Abercrombie published also a work “*On the Moral Condition of the Lower Classes in Edinburgh*,” “*The Elements of Sacred Truth*,” and several other publications of a moral or religious character.

On the occasion of his election to the office of Lord Rector of Marischal College, Aberdeen, he delivered an inaugural address, which he afterwards augmented and published under the title of “*Culture and Discipline of the Mind*.”

Dr Abercrombie maintained through life a high character not only as a physician, but as conversant with all useful knowledge.

At the time of his death he was first physician to the Queen for Scotland, and one of the vice-presidents of the Royal Society of Edinburgh. In the year 1834 he received from the University of Oxford the rare distinction of an honorary degree of Doctor in Medicine.

Dr Abercrombie married early in life—he has left no son, but a family of daughters.

Appalling as the suddenness of this event was to others, it could not take him by surprise, his whole life being one preparation for death.

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PART I.—ORIGINAL ARTICLES.

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*Remarks on Division of the Symphysis Pubis in certain Cases of Obstructed Labour.* By DAVID SMITH, M.D., Glasgow.

IN this country, free as it long has been from the trammels which Roman Catholicism imposed upon its votaries,\* the extraction of the fœtus in obstructed labour, by means either of the cesarian section or division of the symphysis pubis, at no time received the general assent of obstetricians; and, at the present day, while the former of these operations is considered justifiable only when delivery cannot be accomplished through the natural passages, the latter seems to be universally condemned. The rule which has regulated British practice is founded on the belief that the life of the mother is of more value than that of the child,—nay, the preservation of the former, to quote the words of Dr Blundell, “from the graver lesions of her person, is looked upon as paramount to every consideration relating to the fœtus;” and, in truth, when the question is reduced to whether shall the parent or offspring be destroyed, the one for the safety of the other, what is there in the condition of the latter *in utero*, to be compared to a woman arrived at maturity, already a useful member of society, and, it may be, the mother of a family and the centre of a circle of friends? Moreover, craniotomy is merely an imitation of what unaided nature attempts to do in her efforts to empty the uterus in cases where the head of the fœtus is unusually large, or the pelvis of the mother is small or contracted. Long-continued parturient action causes the death of the fœtus, generally before there are any symptoms of immediate danger to the mother; and, as is well known, after it has died, the head becomes more soft and compressible—more easily moulded, as it were, to the pelvic cavity—and thus may be expelled through a space too small to

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\* I allude, of course, to the celebrated decree of the Fathers of the Church, given at Paris in 1648.

allow that of a living child to pass. And, should the disproportion between the head and the pelvis be greater than can be overcome by the mere softening of the former, effected in a few hours after death, and the case be not interfered with, as the body putrefies, the bones of the cranium are loosened, and ultimately the integuments burst, allowing the brain to escape, when the labour may terminate without the assistance of art,—the parent recovering, according to Dr Denman, as speedily and perfectly after such labours as after those which are natural and short. We can easily suppose, therefore, that the fathers of our art, observing the fortunate termination of such cases, were induced under similar circumstances to make an opening into the cranial cavity through which the brain might escape, and the head thereby be diminished ;—an operation which, we see, is altogether imitative of a natural process to preserve the life of the mother at the expense of that of the child.

I am not aware at what period the perforation of the head of a living child was first practised ; but the quibble of conscience which refused to destroy the life of the fœtus, yet permitted it to die, must soon have been detected and exposed, and the observance of the good effects of early delivery must have led to the practice of using the perforator without regard to the vitality of the child. Still, however, it has been usual with writers on obstetric surgery to recommend that the opening of the head should be delayed, *if possible*, until the fœtus has died from the continuance of uterine contraction ; but if the delay is sought merely in order that the instrument may not be thrust into the head of a living human creature, whatever horror might be felt in the act must be overcome when the safety of the patient requires it,—if it is in the idea that it is criminal to extinguish foetal existence, it is equally criminal, in my opinion, to be standing idly by, conscious that in the mean time the fœtus is perishing, and the danger to the mother continually increasing. For, although I have stated that a woman may recover perfectly after a labour sufficiently severe and long not only to cause the death of the child, but to allow time for the putrefaction of its body, the general result of such cases is far otherwise ; exhaustion, which may cause death of itself, is always present, and the effects of pressure of the foetal head on the maternal structures is no less to be dreaded. The soft parts within the pelvis, surrounding the head, become hot, dry, tumid, and inflamed,—these parts being exceedingly nervous, very liberally supplied with blood-vessels, and peculiarly disposed to those unhealthy actions inseparable from a high state of vascularity ; and, notwithstanding the great restorative powers which they possess within themselves, inflammation, likely to terminate in suppuration and gangrene, is not by any means an unfrequent result of long-continued labour. Those who have witnessed the fearful effects

of sloughing of the vagina, implicating at the same time the bladder and rectum, and thus throwing these three cavities into one, require no description from me,—when once seen it is never forgotten; and no language can convey an adequate idea of the wretched state of any female who survives in this condition, for it is impossible that human existence can be more miserable. To avoid such consequences, therefore, the perforation of the head as early in labour as the operation is determined on becomes both justifiable and is the only proper practice, whether the child be dead or alive, if the condition of the mother is such as to require it. No inducement, however, should tempt any individual to the performance of craniotomy without a regular consultation of experienced practitioners, and until the most careful investigation has satisfactorily shown that this is the only means by which the life of the patient is most likely to be preserved.

Doctors of theology have endeavoured to influence the practice of obstetricians by declaring their views to be opposed to the performance of craniotomy, and, in the usual spirit of sectarian bitterness, threatened their anathemas against all who would differ from them in opinion. They maintained that the destruction of the fœtus *in utero* was a direct violation of the law “Thou shalt not kill,” aggravated from the circumstance that eternal perdition was the lot of all those infants who died without admission into the pale of the church by means of baptism; and to save souls, it was enjoined that the cæsarian section should be substituted for craniotomy. The theological part of the question I leave to be settled by the elders, to whom it more properly belongs, and with whose province I have no desire to interfere; and I would inquire what evidence does the history of these operations afford why the one should be preferred to the other.

M. Chailly, a recent writer, in his *Treatise on Practical Midwifery*,\* states: “We have not within the walls of Paris one solitary example of a woman who has survived the cæsarian section. She who lived the longest was one of those on whom I assisted M. Dubois to operate. She died on the seventeenth day of a tetanic affection, when every thing promised a most successful result.” And, in another part of his work, the author observes: “The cæsarian operation is one of the most serious that can be practised on the living woman; *five-sixths, at least, die.*” Dr Churchill, however, gives a much more favourable account: he says, “Taking the entire number (of cases), which amounts to 409, we find that 228 mothers were saved, and 181 lost—or about 1 in 2 $\frac{1}{4}$ .” But I am inclined to believe the statement of M. Chailly in preference to that of Dr Churchill,

\* Translated from the French, and edited by G. S. Bedford, M.D., New York.

because the proportionate mortality, which can never be accurately ascertained, is more likely to be better approximated by one living in a country where the operation has been almost the only one resorted to in obstructed labour, than by such writers as Dr Churchill, who must draw their conclusions from published records, and of course from a number of cases so small in comparison with what have occurred, but have never been recorded, that they are as nothing. On the other hand, the mortality to the mother, after craniotomy, is not more than twenty per cent. in those operated on; and even this would have been diminished but for the natural repugnance felt to interfere, often until the patient was exhausted beyond the power of revival, or the soft structures within the pelvis had suffered so severely from pressure as to be followed by inflammation, gangrene, and sloughing, already alluded to. The preservation of the life of the child, then, is all that can be urged in support of the *cæsarian* section; and were this object always successfully accomplished, there might be some doubt as to the mode of practice to be adopted. But it has been shown, that in the endeavour to save the offspring the danger to the parent is very greatly increased,—so much so, indeed, as almost to resolve the inquiry into which life shall be sacrificed, or, at the least, whether the latter is to be placed in very great additional jeopardy for the sake of *attempting* to save that of the former. And, after all, the recorded cases show that only about seventy per cent. of the children have been extracted alive; and how few of these could arrive at adult age,—never enough, although many more survived than actually did, to repair the sad blanks in society, and more especially in families, caused by the death of their parents. I would be no willing advocate for the destruction of human life, nor would I have less abhorrence at the man who could “wantonly thrust an instrument of death into the brain of a living *fœtus*,” than the translator of M. Chailly’s treatise can possibly have; but it appears to me that in his zeal for the *cæsarian* section he has blinded himself to all its dangers, while in craniotomy he can see almost nothing that is commendable. A writer in the *Medico-Chirurgical Review* says with much truth in regard to this point,—“Little art would be required to produce a picture as graphic of the horrors accompanying the *cæsarian* section as Dr Bedford has drawn of those attending *embryotomy*—horrors, be it remembered, perpetrated upon a being whose sensibilities are worked up to the utmost agony, and whose importance, if not to society, at least to her family, is often inappreciable; and whose suffering, and value of whose life, can scarcely be compared with that of her child, who, if not dead already, is often dead to sensation by reason of the long-continued pressure upon its brain, and has contracted no duties, ties, or sensations, as has a living being.” Surely, then, there is no ground of comparison

between the merits of these operations; and no motive could justify the act of subjecting the mother to the most imminent danger merely for the sake of attempting to preserve the child.

These remarks are not intended to apply to those cases in which even a mutilated fœtus cannot be brought through the pelvis, for in such it becomes not only justifiable, but it is our duty to perform the cæsarian section. The difficulty of deciding upon the operation not unfrequently leads to delay, if not to attempts at delivery with the forceps, or otherwise, through which the uterus may be bruised and irritated, and the patient be so exhausted by the fruitless efforts and pains, that it becomes almost impossible for recovery to take place. It is a rule, therefore, of the greatest importance, that our decision should be formed as early as possible, whether the child, however mutilated, can be extracted through the natural passages; and should this be found impracticable from extreme distortion of the pelvis, or contraction from tumours, &c., no attempt should be made to lessen the child. The history of this operation shows that the dangers which we have to fear are delay in operating, the *shock* on a system already exhausted, contusions on the maternal structures from the previous use of instruments, &c.; so that, when the operation is deemed unequivocally necessary, by having recourse to it early in labour the best chance is afforded to the patient for the preservation of her own life and also of her infant's. And, although the prospect of recovery is not great, yet, when we consider that the only choice is between the operation, which does afford some chance, and certain death to both mother and child, we cannot, I think, hesitate about running the risk of what may follow. But, under every circumstance, the extraction of a fœtus *ex utero*, through abdominal incisions, must occur so seldom, according to the established practice in British midwifery, and has hitherto been so fatal in its consequences, that no rightly judging man would urge its performance on his own responsibility.

An operation much less formidable in appearance than either the cæsarian section or craniotomy, having for its object the enlargement of the capacity of the pelvis in cases of obstructed labour, is division of the symphysis pubis; and the remainder of these Remarks shall be devoted to certain interesting points in its history, chiefly with the view of examining some of the objections which have been brought against it, and whether its adoption might not be justifiable under the limitations to be pointed out hereafter; for it is too often found that, "when any tenet is generally received and adopted as an incontrovertible principle, we seldom look back to the arguments upon which it was first established."\*

The division of the symphysis pubis was founded on an opinion which prevailed for many centuries, that the bones constituting the pelvis are separated at the time of parturition, and that the extent of this separation is proportionate to the necessity. In many of the lower animals there is *evident* relaxation of the ligaments uniting the pelvic bones for a few days previous to uterine action coming on; and several authors of high authority state that they have observed *similar* relaxation in the human female. Ruysch and Harvey speak of it as by no means uncommon; and Dr Blundell found, by careful examination, in the pelvis of a woman who appeared to have died on the third or fourth day after delivery, that the ligaments were so relaxed as to permit the ossa innominata and sacrum to be moved on each other. "On putting my finger," he says, "behind the symphysis pubis on the ligament, I found that I could press it a little way into the joint behind the bones,—the ligament yielding to compression;" and, "when I attempted to move a little the innominata in front, the articulation offered but a slight resistance." Dr Denman observes, that "no person who has been conversant with the dissection of women who have died in childbed, can have wanted opportunities of seeing every intermediate state of these parts, from a separation in which the surfaces of the bones were completely loosened, and at a considerable distance from each other, to that in which there was not the least disposition to separate." Moreover, cases are recorded in which these joints became relaxed to such a degree, for some time previous to parturition, as to render it impossible for the woman to stand, or walk upright; and that this condition depends on gestation may be presumed, I think, from the fact that the symptoms disappear after delivery. Are we not, therefore, warranted in believing, that towards the full period of pregnancy, or more especially during the progress of parturition, the ligaments of the pelvis become capable of some degree of extension; that under certain circumstances relaxation does take place; and that on this relaxation depends the want of power to stand or walk, in connexion with gestation and the parturient state?

These points may be granted, and yet it may be urged that experiments made on the *recent subject* can afford no proper test of how far the diameters of the pelvis can be increased without inflicting injury to the sacro-iliac synchondroses, since in the one case the ligaments seem possessed of a more than usual degree of elasticity, while in the other they have the rigidity of dead animal fibre. This, however, is not altogether the case, as will be seen in the sequel; but even were it correct, and were it found that the ligaments in question were less easily torn during life than after death, a point of very considerable importance would be gained in the knowledge that, to whatever extent the dead parts could be stretched without

tearing, the living structures would undergo still more. The history of some cases seems almost to prove such to be the fact, but others, again, show that no general conclusion on this point can be deduced with certainty. Still, if not actually accurate, the comparison of the results may be interesting; and, although the utmost extent to which the diameters of the pelvis may be increased without injuring the ligaments, &c., cannot be demonstrated, the negative proves that within a certain limit there is almost no risk of destroying these pelvic connexions. Thus, one patient on whom symphysiotomy was performed had the ossa pubis separated almost three inches, and walked on the twelfth day afterwards; another was well on the seventeenth day who had had these bones separated more than two inches and a half; and a third recovered perfectly in whom they were separated to two inches and a sixth;\* while from a series of very carefully conducted examinations made on *recently dead females*† by Dr Menzies and myself, we found that the greatest extent to which the pubic bones could be separated, without the sacro-iliac ligaments giving way, never exceeded an inch and a sixth, and that before this space was gained a crackling sound was heard indicative of laceration. We farther convinced ourselves that the capacity of the pelvis could be increased in its diameters, but least of all in the antero-posterior, by the division of the symphysis pubis; that the distance to which the ossa pubis separated from each other, by the *mere* section of the cartilage, depended greatly on the position of the trunk and limbs; that the *force* requisite to separate these bones was much greater than could justifiably be applied within the soft structures of a living female, such as drawing down the fœtus into the pelvis, and through it; and that when the division of the cartilage was carefully made, neither the bladder, peritoneum, nor urethra, were in any respect injured. But the fatal termination of many of those cases in which symphysiotomy was performed on the Continent, affords an opportunity of showing to what extent the structures of the mother were injured; and from these we learn, that in one the sacro-iliac symphyses were separated in part, the peritoneum was detached, and matter formed, although the ossa pubis had been opened only an inch and a half by the operation; in another, in whom the bones were separated not quite two inches, similar morbid appearances were found, with the addition of the uterus being gangrenous; and so on,—the whole proving that, while in one there had evidently existed

\* I quote these and other statements having reference to the history of symphysiotomy from Dr Churchill's "Researches on Operative Midwifery."

† In these experiments the pubic bones were separated, and the measurements taken, with instruments made expressly for this purpose: nor is it possible to ensure accuracy in such investigations without similar apparatus; for, where the force is unsteady, the sacro-iliac ligaments are torn sooner than they otherwise would, and where there is jerking there can be no correct measurement.



sufficient relaxation of the sacro-iliac ligaments to permit of the pubic bones being separated to nearly three inches, in another death was the result of the injuries inflicted by the separation of these bones to only half the extent. We thus see that the risk of rupturing the sacro-iliac synchondroses past remedy is a very grave objection to the performance of symphysiotomy; and if we take into account the accidents which may happen to the bladder or other soft parts within the pelvis, from pressure against the divided symphysis, or otherwise, we are presented with additional arguments against the indiscriminate recourse to this operation in obstructed labour.

Symphysiotomy was originally proposed as a substitute for the cæsarian section, in a country where the indications for the performance of this operation differ materially from what are considered requisite in British practice; and the history of those cases in which the symphysis was divided to enlarge the capacity of a greatly deformed pelvis, proves that it can never be adopted as adequate for the extraction of the fetus through abdominal incisions. In cases of distortion, the diminution of space is principally in the antero-posterior diameter; and Dr William Hunter and others have shown, by experiments made on distorted pelves, that to increase this diameter an inch, the pubic bones must be separated three inches. Before this space can be gained, however, we have seen that in the *recent subject* there is laceration of the sacro-iliac ligaments, and in the living female the injuries were so great, at a much less extent in many instances, as either to cause death, or render the remainder of life miserable. Nor can its performance be urged from affording a better chance of safety to the child; for, from the tables of Dr Churchill, in which he gives the result of 49 cases, we find that 33 mothers recovered, and 16 died; and of the children, 21 were born alive, but 2 of these were much injured, 19 were dead, and nothing is stated regarding the remaining 9. And, moreover, it appears that in those cases in which the cæsarian section would be resorted to in this country—those, in short, in which the deformity of the pelvis was great—few of the mothers, and still fewer of the children, survived; while in cases of slight contraction, a majority of both mothers and children were saved. From these considerations I quite agree with Dr Churchill in the conclusion—which is that of all British writers—that, as a substitute for the cæsarian section, this operation “is undeserving of the encomiums passed upon it, inasmuch as it offers no increased chance of safety to the mother or child, the statistics of the cases in which it has been tried having shown that 1 in 3 of the former, and one-half of the latter, are lost; besides, in those of the mothers who recover, much inconvenience is experienced from the *sequelæ* of the operation;” and “because the utmost space gained by it would

not permit the child to be born alive in any case in which the cesarian operation *ought to be contemplated.*"

A modification of symphysiotomy was suggested and tried in Italy. It consisted in cutting through the ossa pubis near their junction with the ilia, instead of dividing the symphysis, and by this means gaining a positive increase in the antero-posterior diameter. In 1819, M. Galbiati performed the operation, and it proved fatal. But what female could recover from practice so barbarous? In drawing down the head the divided portion of the pubic bones would be forced forward considerably, which could not be accomplished without great laceration of the peritoneum, and probably also of the bladder; and the pressure of the uterus against the cut edges of the bones could not fail to irritate or tear this organ to such a degree as to induce inflammation and other dangerous consequences. Happily this horrible operation never was approved of even by those who are always the first in attempting to subject their patients to novel modes of treatment.

The substitution, for the cesarian section, of craniotomy conjoined with division of the symphysis pubis, has also had its advocates; but surely no one who had studied the history of these operations could ever dream of lessening their mortality by their combination? In greatly deformed pelves, such as would not permit a mutilated foetus to pass, any increase of space gained by symphysiotomy is far less than has been found requisite to allow the extraction of the child through the natural passages, unless by violently separating the pubic bones so far that the diminished head can be pressed into the opening; but this could only be accomplished at the sacrifice of the life of the mother, or at least by placing her in the utmost danger from the infliction of incalculable injury upon her person. In addition, every child must be lost by the combined operations, and thus the mortality of the two would far exceed that of the one for which they were proposed as an adequate substitute.

But had the proposer and first supporters of symphysiotomy confined its application to those cases in which the contraction of the pelvis is slight, I am inclined to think that it might have been substituted with advantage for craniotomy altogether, *under certain limitations.* We can readily believe that cases do occur in which the obstacle to delivery is too great to be safely overcome by the use of the forceps, and where the increase of even less than a quarter of an inch to the contracted diameter might enable the child to pass alive—in short, where delivery is barely impracticable by the forceps, and where it just becomes necessary to open the head. Thus, to use the language of Dr Burns, "there is but one degree of disproportion betwixt the head and the pelvis which will admit of the division;" and, I would add, there is but one form of pelvic

obstruction in which it would be justifiable to operate,—I allude to that in which the brim is sufficiently large and well shaped to permit the passage of the head of the child easily through it, but the tuberosities of the ischia approach so near to each other as to obstruct delivery,—the pelvis is what is called “funnel-shaped.” In these cases labour proceeds naturally and without interruption, until the head has reached the outlet, when we find that all farther progress is arrested, and the labour can only be terminated by the employment of the perforator. Such are the only cases adapted for symphysiotomy; for, where the contraction is in the antero-posterior diameter, the division of the symphysis and separation of the ossa pubis are less calculated to give increase of pelvic capacity, than when the inlet and cavity of the pelvis are well formed, and the contraction is between the ischia. In the experiments above alluded to, we found that the increase of the antero-posterior diameter was nearly seven-sixteenths of an inch by separating the pubic bones to an inch and a half, whereas the increase between the ischia was ten-sixteenths. If, therefore, a case were met with in which, after the careful but unsuccessful application of the forceps, it could be accurately ascertained that a slight enlargement of the pelvic outlet would permit the delivery of an entire child, would it not be more justifiable to have recourse to symphysiotomy, by which both parent and offspring might be preserved, than to sacrifice inevitably the one, although such practice did afford a better chance of preserving the other, *if the labour had not continued so long as to have endangered the recovery of the mother, and no uncertainty existed as to the child being alive?* But in a case where the head is high, and prevented from entering the pelvis by contraction—no matter how slight—of the antero-posterior diameter, this operation ought never to be attempted, because the degree of deformity at the brim cannot be satisfactorily ascertained, and this diameter receives least increase by the separation of the pubic bones; nor should it be resorted to under any circumstances when the child is known to be dead.

Several writers on this subject, while they condemned the practice of division of the symphysis pubis as a substitute for the cæsarian section, have either advocated its adoption in cases of slightly deformed pelves, where craniotomy would otherwise be necessary, or at least seem to think that these are the only cases in which it could justifiably be resorted to; but no one, so far as I am aware, has pointed out the particular form of contracted pelvis best adapted for the operation; indeed, in all the writings I have had an opportunity of consulting, contraction of the antero-posterior diameter is chiefly spoken of, and the *funnel-shaped* pelvis is entirely overlooked. True, it is rare that the tuberosities of the ischia approach so near to each other as to cause greater

obstruction to delivery than may be overcome by the forceps, and in which division of the symphysis pubis would afford space for the extraction of an entire child through the natural passages; and hence many authors may have overlooked this variety of deformity of the pelvis, or knowing the difficulty of accurately ascertaining the relative proportion of the head of the fœtus to the brim, have been opposed to symphysiotomy, lest it should be resorted to in cases in which craniotomy is the only proper practice. The history of the operation in question fully shows that its great mortality depended very much on attempting to substitute it for the cæsarian section, and that it has been most successful in those cases in which the deformity was slight; but, instead of arriving at the conclusion, as I have done, that it is not necessarily attended with the dangers imputed to it, its opponents sneeringly point to those results as proof that when the patient survived it had been resorted to in cases in which artificial assistance was not required. Now, this is unfair; for, besides the fact that first labours are, more than any others, dangerous to the mothers, Professor Simpson has very ably shown that, in all cases, the sex of the child influences to a great extent the difficulty of the labour, and of course affects the recovery of the parent. How often has it been found necessary to have recourse to the forceps, or even the perforator, in accomplishing delivery in first cases, when in all subsequent labours no interference was requisite; and, I dare say, every accoucheur who has seen much midwifery practice has met with instances in which the female children were always born by the natural efforts of the mother, while the males were never so. It must be borne in mind, therefore, in every calculation regarding the results of artificial deliveries, that there are other causes than the mere *mechanical means* at work, which may of themselves destroy the patient; and until tables have been constructed pointing out every circumstance connected with the cases in which symphysiotomy was performed, no accurate approximation of its mortality, &c., can be drawn, and far less is there sufficient evidence to show that, because some females who had been delivered by means of this operation afterwards gave birth to children without artificial interference, the labour in the first instance would also have terminated naturally. Seeing, then—what is surely very evident—that the safety of both parent and offspring depended on the slight deformity of the pelvis, while the danger arose principally from adopting the operation in cases not adapted for it, it becomes a matter of very serious consideration how far any one is justified in directing, as Dr Ramsbotham has done, that “the life even of the fœtus must be sacrificed, if that be necessary to preserve the woman’s structures from such dangerous injuries as the section of the pubis must occasion,” if

it is meant thereby, that in no case symphysiotomy may be performed without of *necessity* so injuring the mother as to render the chance of her survival always doubtful.

In cases in which it is barely practicable to accomplish delivery with the forceps, and requiring a more than ordinary degree of force to extract the child, the soft parts of the mother, as is well known, occasionally become inflamed, &c.; and how much more are these structures likely to be injured by allowing the descent of the head to open the pelvic apertures, after the symphysis has been divided. The power required to separate the bones is pretty considerable, and even were the action of the uterus, assisted by the forceps, sufficient to force the head through the pelvis, I would object to this mode of practice on the ground that it must inflict severe contusions, &c., on the maternal structures, particularly on the bladder, by pressing it against the extremities of the divided bones; and I feel convinced that several on whom symphysiotomy was performed owed their death, or future infirmities, to this cause. In delivering, therefore, the forceps being first applied over the head, the flat blades of an instrument which could be gradually and steadily opened—as by a screw—should be introduced into the section of the symphysis, and while the accoucheur attended to the advancement of the head, an assistant would separate the pubic bones just as far as might be required. By such means, and by such only, could the operation be lessened of its greatest source of danger; and the additional risk to an ordinary forceps delivery, which the patient would have to encounter, would consist in the injury done, by section or otherwise, to the ligaments connecting the pelvic bones.

Of many objections which have been raised to the division of the symphysis pubis in obstructed labour, the chief are those which apply to it as a substitute for the *cæsarian* section, and these I consider conclusive and unanswerable; but there are some others to which I must allude, such as—1. The injury that the soft parts may suffer from the knife, from violence used in separating the ossa pubis, or from pressure against the divided bones; 2. Incurable rupture of the sacro-iliac synchondroses; 3. Inflammation excited by the admission of external air into the incision; 4. Non-union of the divided cartilages; and, 5. The impracticability of the operation altogether, should the symphysis pubis be ossified. To these I offer the following reply.

1. The maternal structures can never be injured by the knife, unless through the ignorance or carelessness of the operator, and the same is applicable to every case in which surgical interference is necessary; nor from violence used in separating the pubic bones, for these may be opened to an inch and one-sixth on the dead body without the slightest laceration, and beyond

this a farther separation would be improper, inasmuch as the sacro-iliac synchondroses might suffer,\* and injury from pressure against the divided symphysis is to be avoided by the means formerly described.

2. Incurable rupture of the sacro-iliac synchondroses has not been known to occur where the pubic bones were only separated to an inch and a half, and more than this would not be required in those cases in which the operation is recommended, and considered justifiable.

3. That the organization of cartilage is sufficient to give rise to the processes of inflammation and ulceration, seems now to be fully established; and it may be possible to have acute chondritis from the admission of air into the incision, as urged by the objectors to symphysiotomy; but so little is known of this affection in its earliest stage as a disease *per se*, that the objection in this respect must be looked on as more imaginary than real. And should it be said that the soft parts contiguous to the divided cartilage, as the cellular tissue, peritoneum, &c., may become inflamed from the cause alluded to, I would reply that the history of other operations, implicating these structures, shows how little need be dreaded from the mere effect of external air as calculated to excite inflammatory action.

4. *Experience*, Dr Churchill says, "has shown the groundlessness of this objection."

5. One case is on record in which this operation was deemed impracticable after it was commenced, from the symphysis being ossified; but how such a proceeding could have been adopted, from this cause *alone*, seems to me very unaccountable. I have no idea of ossific formation in which the division could not be "completed" by the saw, if too hard for the knife; and I know, from repeated examination of the part, that osseous union of the pubic bones is of rare occurrence previous to the age at which women cease to become mothers. I have again and again—from twenty to thirty times at least—had an opportunity of dividing the symphysis pubis, in the bodies of females from eighteen to seventy years of age, and in only one case was there ossification; and, within the last six years, I examined the cartilages of the pelvis of a woman who, when a girl of fifteen, had witnessed the second landing of "Prince Charlie" on the west coast of Scotland, and found no osseous union.

But it might be said that after symphysiotomy has been performed, not only the divided pubis reunites by ossific matter, but the sacro-iliac synchondroses may also become ossified,

\* The whole phenomena of parturition, however, prove that during its progress the maternal structures possess more elasticity than after death; for example, in addition to the facts already stated, let any one try to pass a foetal head out through the vagina and vulva,—he will find that these parts yield very little, and the perineum is invariably torn.

thereby rendering any future resort to this operation utterly impracticable; for, although the symphysis were divided, the separation of the ossa pubis will be exactly in proportion to the yielding of the sacro-iliac synchondroses. Any one, however, who would use such an objection forgets that no second operation need be required; because, after it has been ascertained that deformity of the pelvis exists to a degree through which a child at the full period cannot pass, the recognised duty of the accoucheur is to induce premature labour at a period of utero-gestation when no other interference would be necessary to accomplish delivery, and thus afford a chance of preserving the offspring without subjecting the parent to any greater danger than may occur in a natural labour.

Before concluding, and to prevent, if possible, any misconception of my meaning, it may be well briefly to explain one or two of the more important points of these remarks, in so far especially as they relate to those circumstances which must always influence the practice in obstructed labour. For it is not enough for any one, however *conscientious* he may suppose himself to be, to follow implicitly what others have done before him, merely because "high authority" so dictates it, nor is it honest to condemn opinions which may be different from his own, without a due examination of their merits, apart from prejudice. But how seldom is this acted on!

The gist of this paper rests on the assumption, that in the human race the maternal passages and foetal head are so co-adapted, that a slight deviation in their relative normal proportions becomes a cause of obstructed labour; and Professor Simpson has satisfactorily proved, so far as his data enabled him to do so, that even the small difference in the bulk of the heads of male and female children is sufficient to account for many of the difficulties and dangers of parturition. If, then, this being correct, the head of the child exceed, or the pelvis of the mother be below, the healthy standard to any very appreciable extent, the expulsive efforts of the uterus will be unable to overcome the resistance arising from this disproportion, and the interference of art becomes necessary to effect delivery. The well-known compressibility of the human cranium at birth permits the application of the forceps with advantage in the slightest degree of deformity; but, to quote the words of Dr Osborne, "though nature has, with admirable wisdom, by means of sutures and fontanelles, so constructed the head of the human foetus that, in the passage through the pelvis, it may suffer the form to be altered and the volume to be considerably diminished without such injury to its contents as shall necessarily destroy life; yet as there is a volume beyond which each foetal head cannot suffer compression with safety, so there is another and still smaller into which it cannot be compressed at all."

When such occurs, and unless the deformity of the pelvis be very great, craniotomy is the operation recommended in this country as the means of accomplishing delivery with safety to the mother. To prevent the destruction of the child, however, it has occurred to me that the attention of obstetricians might again be directed to division of the symphysis pubis in certain cases of obstructed labour; and I have endeavoured to show that when the deformity consists in contraction of the outlet from the approach of the ischia to each other, a correct knowledge of its degree can be ascertained, and this diameter can be enlarged much more easily and safely than any other. The previous history of the operation may seem to offer little in support of the opinions I entertain on this subject, but it appears to me that an excellent argument in my favour is derived from this source, *viz.* the recovery of the mother, and safe extraction of the child, in the great majority of cases where the deformity was so slight as to be compatible with the moderate separation of parts indicated by the experiments above alluded to; and my inquiry is confined altogether to such. The conclusions, then, to which I have come may be summed up as follows:—

I. Craniotomy is, in all cases of obstructed labour, justifiable when the entire foetus cannot be extracted through the pelvis, from deformity at the brim, from osseous and certain other tumours, and from great contraction of the outlet by the near approach of the tuberosities of the ischia to each other,—the obstruction being more than can be overcome by the forceps, or other means, yet not so much but that a mutilated foetus may pass.

II. The cæsarian section must be resorted to whenever the deformity is so great that a mutilated foetus cannot be extracted through the natural openings; and for which operation symphysiotomy can never be substituted.

III. Symphysiotomy is only applicable to cases in which the delivery cannot be accomplished by the forceps, and would require that craniotomy should be performed,—the obstruction being dependent on the *funnel-shaped* form of the pelvis, and satisfactorily ascertained to be such that a slight increase to the contracted diameter would permit an entire child to pass; but in no instance would it be justifiable to resort to this operation if any uncertainty existed either as to the degree of deformity of the pelvis, or the vitality of the child.

GLASGOW, 18th November 1844.



*Proposal to Treat Protracted Mammary Abscess by the Breast-Pump and the Syringe.* By ALEXANDER WOOD, M.D., F.R.C.P., &c. &c.

It is unnecessary to premise that this is an affection which gives rise to a great deal of annoyance to the patient. It may occur either when the breast is in its natural state or during lactation. The latter is, as might be expected, the more common, and proves also the more unmanageable of the two. It is preceded by inflammation which is either acute or chronic, and as Sir Astley Cooper has succinctly expressed it—"is adhesive in the first stage, suppurative in the second, and ulcerative in the third." On the mode of treatment of the inflammatory stage we shall not enter,—leeches, fomentations, evaporating lotions, saline purgatives, diaphoretics, and opiates, being all occasionally demanded, and being sometimes successful in preventing the formation of pus. Notwithstanding the most prompt and judicious treatment, however, as we have all had occasion to experience, suppuration will occasionally take place, and the lamentable result is often great suffering to the patient, and destruction of a large portion of the gland, rendering the affected breast incapable of affording nourishment to the child either at the time or after subsequent confinements. To these formidable effects must too often be added an unseemly and puckered cicatrix, no trifling annoyance to the patient.

As the inflammation by which these abscesses is preceded is either acute or chronic, so is the abscess itself—some of them running their course in a few days, others requiring weeks. The latter are exceedingly apt to give rise to deep-seated sinuses, well described by Mr Hey as "numerous, running in a variety of directions, and when opened, found to be in part filled with a soft fungus of a purple colour." The disease, he adds, "will sometimes continue for many months, with little variation in its appearance. A degree of hectic fever, however, is kept up by the absorption of the confined matter, and the breast usually becomes more indurated in proportion to the continuance of the complaint."\*

It would appear that, previous to the time of Mr Hey, it had been the practice to extirpate the breast for this affection. Mr Hey suggested, as a preferable mode of treatment, the "dividing the sinuses throughout, however deep their situation may be." Sir Astley Cooper suggests, as a better practice, the "injecting of the sinuses with a solution of two or three drops of the strong sulphuric acid to an ounce of rose-water, and the

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\* Hey's Surgery, p. 523.

applying the same solution by folds of linen over the bosom, by which the secretion of matter is checked and adhesion is produced.”\* It is very evident that in whatever way the disease is treated it is a very formidable affection, and it is of great importance to prevent the formation of these sinuses. This, we believe, is only to be done by giving early and free exit to the purulent matter, and by producing the adhesion of the surfaces of the abscess as speedily as possible. The great difficulty, however, is how to accomplish this.

Sir Astley Cooper, although he does not seem favourable to the opening of these abscesses in general, nevertheless recommends that “if the abscess in its commencement be very deeply placed—if its progress be tedious—if the local sufferings be excessively severe—if there be a high degree of irritative fever, and the patient suffer from profuse perspiration and want of rest, much time is saved, and a great diminution of suffering is produced, by discharging the matter by the lancet.”† He thinks it necessary, however, to couple this advice with the following caution: “Still it is wrong to penetrate with the lancet through a thick covering of the abscess, as the opening does not succeed in establishing a free discharge of matter, for the aperture closes by adhesion, the accumulation of matter proceeds, and ulceration will still continue.” Unfortunately, it happens that the very cases in which this distinguished surgeon recommends free incision are just the ones to which the caution we have quoted most particularly applies. It is therefore evidently of importance to discover some means of obtaining the advantages of an early incision without the corresponding drawbacks to which Sir Astley has alluded.

A plan of treatment has occurred to me, which as far as I know is novel, and its results, in the only three cases where an opportunity has occurred of trying it, have been such as to warrant me in suggesting it for the consideration of my professional brethren.

In obedience to the precepts of Sir Astley Cooper, as soon as the indistinct fluctuation, or rather the boggy feeling, by which the formation of matter in these abscesses can be detected, is distinctly ascertained, let a small bistoury or abscess lancet‡ (the common lancet will sometimes not penetrate deep enough) be carried down until the matter begins to escape. After all that can be squeezed out by pressure is removed, let the breast-pump be applied over the orifice, and the rest of the matter be drawn out. The sinus is then to be injected with some astringent solution, by means of a small syringe. The

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\* On Diseases of the Breast, p. 11.

† Op. Cit., p. 10.

‡ A subcutaneous incision-knife would answer well.

syringe employed is the small glass one for the urethra, sold by most apothecaries. The lotion I have hitherto used is the one recommended by Mr Hey, though it may be doubtful if it possesses any peculiar advantages.

R Aquæ puræ,	℥xv.
Spt. rosmarin.	℥i.
Spt. lavandul. comp.	℥i.
Zinci sulphat.	gr. xxx.
M. fiat lotio.	

The sulphuric acid lotion of Sir A. Cooper will probably answer as well.

A pledget of lint dipped in the lotion is then to be applied outside, and covered with oiled silk; over this a compress may be placed, and firm pressure maintained on it by means of adhesive plaster. In some cases the walls of the abscess will unite at once, and all that remains to be done is to trust to time for the removal of the surrounding induration, or to attempt to discuss it by frictions with camphor liniment, mercurial or iodine ointment, or the application of the emplastr. ammoniaci cum hydrargyro.

Where the surfaces do not thus unite, the falling in of the breast, produced by the exhaustion of the glass, will be found to have disappeared; the cavity in such cases has only to be injected two or three times a-day, which will serve at once to keep the opening free for the discharge of matter, and will also tend to arrest the further extension of the ulcerative process.

The treatment of acute and more superficial abscess may be conducted on the same general principles. The early evacuation of the matter saves the patient much suffering, and also enables the nursing on that breast to be resumed at a much earlier period. The cicatrix is also much smaller than in cases where the matter is allowed to discharge spontaneously; indeed, if the incision be made in the direction of the natural folds of the breast, that is, radiating towards the nipple, the cicatrix will in a short time be imperceptible.

I shall conclude these brief remarks with a summary of the three cases of chronic abscess in which an opportunity has occurred of trying this method of treatment.

**CASE I.**—Mrs B., under thirty, second child born September 17, 1843. Had abscess of the right mamma after first accouchement, which continued to discharge for about thirteen weeks. The gland is much destroyed, and is disfigured by two unseemly puckered cicatrices. Five weeks after this delivery, patient was seized with a rigor, pulse 120, full, tongue furred, severe pain in the head and bowels; the right breast has never secreted milk, and the secretion from the left is much diminished. There are also shooting pains in both breasts.

This ephemeral fever passed off in about twenty-four hours, with a copious sour-smelling perspiration. The patient, however, continued to complain of occasional shooting pains in the left mamma, and thought that, although the secretion of milk was greater than during the feverish attack, yet that it was much less than it had been previously. The pains continued to increase, and the patient complained much of them, but being of a querulous disposition, they did not attract much attention, more particularly as careful examination of the breast failed to detect either hardness, redness, or swelling.

About the beginning of November, however, on pressing the gland from below upwards, a distinct tumour about the size of a marble was discovered. Pressure on this tumour excited considerable pain. Leeches and evaporating lotions were applied, but it continued slowly to enlarge, still retaining its firm character. About three weeks from its first appearance, a boggy feel was distinctly perceptible, and an attempt was made to pass a lancet into it. No matter followed the incision, which had been made to the utmost depth the lancet would permit. A narrow-bladed bistoury was next introduced through the aperture and was pushed decidedly down till pus oozed from the wound. About a teaspoonful of purulent matter mixed with blood followed the operation. The egg-shaped breast-pump was then applied, and on exhausting the syringe the matter flowed freely out. About half a wine-glassful was collected. The patient complained very much of pain. The solution was then introduced by means of the syringe, Mrs B. complaining of violent burning and smarting pain. Having withdrawn the lotion by means of the breast-pump, pledgets dipped in the solution were applied externally. Over this a piece of oiled silk was laid, and compression exerted firmly by means of adhesive plaster surrounding the whole breast.

Next day the pain was almost gone, but the secretion of milk was entirely arrested, and as the patient could not have recourse to the other breast, she was obliged to avail herself of the kind offices of a neighbour.

In four days, however, the wound was completely healed, and although a good deal of hard swelling remained, the secretion of milk was restored. This patient nursed her child for the usual period; the induration disappeared gradually, although no means were adopted for its removal. Minute inspection alone can discover a small white line where the incision was made.

CASE II.—Mrs A., æt. twenty-two, florid complexion, scrofulous appearance. Has had repeated attacks of inflammation in the chest. Is subject to palpitations. The pulse hard and jarring. Distinct friction sound in the præcordial region. States that her last attack of inflammation in the chest occurred during rheumatic fever.

Was confined of her first child October 18, 1844. Was in her usual health and going about again on the 24th.

*November 14.*—States that about a fortnight ago, after exposure to a draught, was attacked with pain in the left breast of a throbbing character. Thinks the breast hard. The child has not been able to suck it for some days; but she has drawn off the milk by means of a glass. On examination a distinct hard tumour is felt to occupy the upper and outer part of the gland, but the pain on handling this is not greater than is produced by touching any part of the breast, which is extremely sensitive throughout. There is a feeling of obscure fluctuation, but this is not decided enough to warrant the opening of the abscess.

*November 19.*—Fluctuation now perceptible; the abscess was punctured, and a large saucerful of bloody pus was drawn off by means of the pump. The wound was subsequently dressed as in the former case. On the 22d the wound appeared to be entirely healed throughout; the secretion of milk was restored, and she was nursing the child on that breast. There is, of course, still some mark, which will disappear by degrees. The induration is much diminished.

*CASE III.*—Mrs S., stout, healthy, about twenty-one years of age, confined of her first child November 17. In this case the symptoms of pain and uneasiness would appear to have commenced within the first week after delivery. Attention was not called to it, however, until the 28th of November, when a tumour larger than in either of the former cases was felt in the left breast, and fluctuation was detected. A deep incision having been made, the matter was drawn off as before; the injection and subsequent dressings were performed in the same way. In this case the injection scarcely gave any pain.

*December 1.*—The abscess is again distended, and purulent matter oozes out on pressure. About two table-spoonfuls were drawn off by the breast-pump. The injection was ordered to be used three times a-day.

On the 3d could scarcely succeed in throwing any fluid into the cavity; and on the 6th the wound was cicatrized, and the secretion of milk re-established.

An abscess is, however, forming in the other breast.

The first of these cases is one of a decidedly chronic character. In the others, although the abscesses formed more rapidly, yet they were decidedly different from the acute suppurations which often occur during lactation.

19, ROYAL CIRCUS, 13th December 1844.

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\* \* We have seen Dr Wood draw off the contents of a mammary abscess in the method described, and, in protracted cases, we think it likely to be of extensive utility. We have also inspected the mark left after the cure in the cases above reported, and found it to be trivial in the extreme. In all of them the secretion of milk was abundant.—*Editor.*

*Surgical Cases.* By JAMES DUNCAN, M.D., Fellow of the Royal Colleges of Surgeons of England and Edinburgh, one of the Surgeons to the Royal Infirmary, Edinburgh.

*Inguinal Hernia—Reduction—Intense Inflammation of Bowel—Death.*

IN the October Number of this Journal, amongst other cases, I related one of small femoral hernia of the left side, illustrating the fact that strangulation of the bowel for a very short period is sometimes sufficient in such cases to induce changes leading to ulceration or gangrene of the intestine, and to a fatal termination. The following case proves that even in large inguinal hernia, strangulation for an equally short period may lead to the same results.

I was requested by my friend Dr R. to visit a patient who was labouring under strangulated oblique inguinal hernia of the right side. The patient stated that he had been affected with the rupture for a number of years, but that it had always ascended when he assumed the horizontal position.

He had retired to rest at the usual hour on the evening of the day preceding that on which I saw him, and the bowel had returned as usual. He had risen to evacuate the bladder at five o'clock in the morning, and the bowel at the time descended; but he considered it as a matter of no moment, and again retired to bed, feeling no inconvenience from it, and expecting that it would return as usual. On rising late in the morning he found that the tumour was very tense, and that it had likewise become the seat of considerable pain. He tried to reduce it, but could not; and vomiting supervening, he applied to a medical gentleman who resided in the neighbourhood. Slight attempts were made by him to reduce it; and these failing, cold was ordered to be applied to the tumour, and a large enema to be administered, with the hope that when the bowels, which had previously been somewhat constipated, were moved, the reduction would be much facilitated. No evacuation followed, and the symptoms continuing, I was requested to visit the patient, which I did about half an hour after noon of the same day.

The patient was then suffering much, there was frequent vomiting, the skin was rather hot, the pulse about 90, and of moderate strength; but there was an expression of much collapse with occasional hiccough. The tumour was of considerable size, fully equal to that of a large fist. It was exceedingly tense, and somewhat painful to the touch. I immediately attempted the reduction, and this was, as I expected, accomplished without any great difficulty. The patient immediately expressed himself relieved, and after a short time the bowels were moved,

and the vomiting ceased. I saw him again in the afternoon; he still appeared to be going on well, and there had been no return of the vomiting. Matters continued in this state until about midnight, when he was seized with violent pain at the lower part of the abdomen, followed by rapid sinking. He continued to get gradually weaker and weaker, and died in the course of the afternoon of the day following that on which the tumour had been reduced.

*Post-mortem Inspection.*—On laying open the cavity of the abdomen, two large folds of small intestine, about ten inches in length each, were found lying at the lower part of the abdomen, in a state of intense inflammation. They were of a bright scarlet colour, and contrasted beautifully with the subjacent and surrounding folds of intestine, which retained their natural hue. The affected folds were dilated, as well as the canal above them, and their parietes were somewhat softened, but in no part had gangrene supervened. The redness terminated by a defined edge, the continuous portion retaining its natural colour. There was no effusion either of lymph or serum into the cavity of the abdomen.

As no unusual degree of force had been employed in reducing the protrusion in this case, and as its reduction had been effected within seven hours after its descent, I had every reason to anticipate a successful result, and was consequently much disappointed next day on finding the change which had occurred. It appeared to me at the time that matters could only be explained in one of two ways,—either that the hernia had been strangulated longer than we had been led to believe, or that the bowel had given way at the time of the reduction. I did not think it probable that in so large a hernia as this was, and which had, as we had been informed, been strangulated only for a few hours, inflammatory action so intense as to prove so rapidly fatal could have been established in such a short space of time.

As to the first of these, we found on re-examination that the patient's wife adhered strictly to the account which both she and her husband had previously given us; and they were so distinct in their statements that we had no doubt as to their accuracy. As to the second explanation of the progress of the case, I was somewhat more in doubt. I could scarcely conceive, from the little force which was used, that rupture of the intestine had taken place; but as it was a possible event, I was somewhat relieved on finding the explanation afforded by the post-mortem inspection.

In all the works on hernia we are told, and it is a well known fact, and one easily explained, that "large and old ruptures, which seem most formidable on the first view, are in reality attended with much less danger than small and recent ones. That "old rupture is not readily strangulated, and when it

falls into this state, the danger is not imminent ; the distention of the opening, previous to incarceration, has so dilated and weakened the parts that they can no longer produce a close constriction." As a general law, there is no doubt as to the correctness of the above statement, but results such as occurred in this case—and similar ones are every now and then met with—place in a strong light the impropriety and danger of delay in such cases. No great length of time is required to satisfy the surgeon whether the taxis and its subsidiary aids are or are not to be successful ; and after these have been fairly tried, every minute allowed to elapse before the performance of the operation must be regarded as productive of danger.

*Femoral Hernia—Gangrene of Gall-bladder—Extravasation of Bile—Peritonitis—Death.*

Cases of reducible and irreducible hernia are sometimes complicated with other affections, which resemble them more or less closely, in such a manner as to render the diagnosis exceedingly difficult if not impossible. "The intestine," according to Mr Lawrence, "in a large hernia, may be affected with colic, and thus give rise to constipation and vomiting. Such an attack," he says, "may render a reducible hernia incapable of being replaced, particularly if the bowels are much inflated. An attack of ileus," as he says, "from some other source independent of the original cause, may likewise complicate the case." In either of these the performance of the operation would not only be useless but decidedly injurious.

In the first class of cases purgatives and emetics will procure evacuation of the bowels. In the second, if the hernia is reducible, little room for doubt will be left ; but should it be irreducible, the diagnosis is rendered more difficult. The true nature of the case, however, may be frequently made out by careful examination.

The following case, in which the diagnosis was attended with much difficulty, appears worthy of being recorded, although the complication is one which can seldom occur, inasmuch as it exhibits a rare form of disease.

I was called to see a poor woman in Jamaica Street, who was supposed to be labouring under strangulated femoral hernia of the right side. The general symptoms were those of strangulation of the bowel. There was a small tumour of the right side, which was tense and slightly tender, and at the same time the woman was affected with vomiting and constipation, distention of the abdomen, with general tenderness. The pulse was about 120, small but wiry. The countenance was expressive of much anxiety. Skin moderately warm. The symptoms had existed for upwards of twenty-four hours when I



first saw her, and were believed by her to depend upon the state of the rupture.

The hernia was reduced without much difficulty, but the symptoms were not at the time much alleviated. After an hour or two, however, subsequently to venesection and the exhibition of aperients, the bowels were moved, but the pain of abdomen still continued. This likewise, after the exhibition of calomel and opium, and the application of leeches, abated considerably. Matters now appeared to be progressing more favourably, when an injudicious well-meaning lady who visited her, finding that she complained of great weakness, administered a glass of wine. This was followed by a return of the symptoms of peritonitis, with increased intensity. Matters passed rapidly from bad to worse, and the patient died in about forty-eight hours afterwards.

At the post-mortem examination, marks of extensive peritonitic inflammation were found, as indicated by sero-lymphatic effusion to a considerable amount. These were most intense in the right hypochondriac and lumbar regions, where the intestines were much matted together by lymph, with serum apparently mixed with biliary matter effused into the interstices. The gall-bladder was found collapsed and emptied of its contents, and its parietes on the inferior surface for about two-thirds of its length in extent, and half an inch in breadth, were in a state of gangrene. The slough had partially separated at one point, thus allowing the contents to escape into the cavity of the abdomen.

This is just one of the cases the diagnosis of which is attended with much difficulty. A surgeon, had the hernia been irreducible, would, under the circumstances, have been fully warranted in operating, a step which of course would not only have been useless, but possibly very injurious. Even as it was, I naturally ascribed the peritonitic inflammation to the strangulation of the bowel, the tumour, it is to be borne in mind, being the seat of some considerable uneasiness previously to its being returned. Subsequently to the reduction of the hernia, the symptoms were those of simple peritonitis, and consequently there was no ground for suspecting that internal strangulation existed, and therefore there was no call for any of the proceedings recommended in such cases. We are told that, even in those instances in which the rupture is irreducible, we are sometimes, by careful attention to the symptoms as well as the history of the case, enabled to ascertain whether or not the strangulation of the bowel is to be regarded as their cause. We are told that the surgeon, by attention to the following circumstances, may be enabled to decide this point:—"The pain in ileus is felt in the abdomen and not in the swelling, which continues soft, while the belly is inflated, hard, and tense. The attack is sudden, and not preceded by any of the occasional

causes which could affect the rupture; and the ring is free. The affection extends in the sequel to the swelling, which then becomes painful and tense; but it appears later here than in the belly, and does not proceed to so great a degree. All these circumstances will of course aid materially in enabling us to form an opinion as to the nature of the case; and two are related by Mr Pott, in which by attention to them he was led in both to form a correct diagnosis, and in one of them to refuse to perform the operation, which he was urged to have recourse to by the other surgeons in attendance. The operation in one, and the dissection in both, verified the accuracy of his opinion. It would, however, we believe, in many cases be dangerous to act upon an opinion thus formed, and we are the more convinced of this, inasmuch as we have seen more than one case in which all the indications thus laid down existed, and nevertheless the symptoms were clearly to be referred to the hernia, from the complete success which attended the performance of the operation.

What the cause of the gangrene of the gall-bladder was it is difficult to say. There was no obstruction in the ducts; but it is possible that some biliary calculus might have been temporarily impacted in them, but for a sufficient length of time to induce the inflammatory action which terminated in the formation of the slough.

*Femoral Hernia—Difficulty in Diagnosis—Operation—Cure.*

The following case illustrates the danger which might accrue were we to act upon the diagnostic marks as quoted above, as well as the propriety of the practice now generally recommended in doubtful cases. I was asked by Dr Simpson to see a poor woman in the Old Town who had been labouring for nearly two days under symptoms of obstruction of the bowels. In this patient the general symptoms had been urgent from the day before that on which I saw her. A small tumour existed in the region of femoral hernia of the left side, but was so perfectly free from pain that not only were the symptoms not believed to depend upon it, but by several the very existence of a hernia was doubted. When I first saw her the general symptoms continued urgent, and the patient had an expression of considerable anxiety. The bowels were constipated, the vomiting was feculent, and there was considerable distention with tenderness of abdomen. In the left groin there was a small tumour of about the size of a large filbert. It was firm to the touch, and free from pain, and bore handling without giving more annoyance than would have been produced by treating a gland in the same manner. On careful examination a narrow pedicle could be made out, stretching in the direction of the ring. Not the slightest impression could be made on it by pressure, and some difference

of opinion existed as to its nature, several of those who saw it believing it to be a gland, and that the symptoms of obstruction were independent of it altogether. No difference of opinion existed as to the practice which, under the circumstances, ought to be followed, *viz.*, to cut down upon the tumour and ascertain its nature. This I accordingly immediately did in the usual manner, and a very small knuckle of intestines was found much injected, but otherwise in a healthy condition. The stricture at the neck of the sac was exceedingly tight, and some little caution was required in dividing it. The intestine was then returned without difficulty, and the usual treatment pursued. The patient after this made a rapid recovery without the slightest bad symptom occurring.

Had we in this case acted upon the diagnostic marks laid down as quoted above, and treated the case as one of ileus, altogether independent of the tumour, there can be no doubt what the result would have been.

*Oblique Inguinal Hernia—Indurated Omentum—Operation—Cure.*

Some difference of opinion exists as to the proceeding which ought to be adopted in cases of large entero-epitocoele, where the omentum has become so much enlarged and indurated that it is impossible to reduce it after incision of the stricture to a moderate extent. Surgeons were formerly in the habit of surrounding the neck of the omentum with a ligature, and cutting away the portion below it. The fatal consequences which so frequently followed this practice have very properly led to its abandonment. The practice now most generally followed is either to leave the omentum in the sac after returning the intestine, or to cut it away, and ligature the vessels which bleed. Objections to both of these proceedings will at once suggest themselves. The best practice I believe to be to incise the parts to the necessary extent, and return the protruded omentum. This practice I adopted in the following case, in which the omentum was indurated and enlarged to a very great extent, with perfect success.

In the beginning of May 1842 I was called by my friend Dr Thomson to visit an old woman upwards of sixty years of age, who had been labouring from the morning of the day preceeding under symptoms of strangulation of an oblique inguinal hernia of the left side. The hernia was a large one, and exceedingly tense, but not very painful on pressure. There was likewise a large inguinal rupture of the right side, but it could be returned with facility. The taxis had been fairly tried on that of the left side, but no impression could be made upon it. Under these circumstances, and as the symptoms were urgent, I immediately operated, with the concurrence of my friends Dr T. and Dr Robertson.

A large fold of small intestine was found, in tolerably good condition, in the sac, and lying over it a large mass of indurated omentum in a highly injected state. The intestine was reduced with facility after incision of the structure to about the usual extent, but it was found impossible to return the omentum. The question now was, what was to be done with the omentum? From the bad consequences which have in so many cases followed the leaving the omentum in the sac after reducing the intestine, I felt very averse to do so; on the other hand, the vessels which must have been divided, and would have required ligature in this case, were so large and so numerous as to oppose a very formidable objection to excision of the part. Under these circumstances the best step appeared to be the more extensive division of the stricture, and the return by that means of the omentum. This was accordingly done, and the bandage applied in the usual manner. Every thing went on perfectly well until about eight days after the operation, when inflammation of the sac took place. This, however, was productive of no further annoyance than the local pain, and gave rise to little or no constitutional disturbance. There was no formation of pus, but simply effusion of lymph and serum, which after their absorption led to the complete obliteration of the sac. The patient made a perfect recovery.

The inflammation of the sac, after the operation, in cases of large hernia, is by no means a rare occurrence, and has followed in one or two cases on which I have operated. In some of them it has proceeded to suppuration; but in none has it extended to the cavity of the abdomen, or been productive of any alarming consequences.

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*Contributions to Infantile Pathology.* By ALEX. D. CAMPBELL, M.B. Oxon., F.R.C.S.E., and Lecturer on Medical Jurisprudence.

*Sanguineous Cerebral Apoplexy in a Child eleven Days old.*

"FROM the researches of M. Rochoux and others it appears that cerebral hemorrhage seldom occurs till after fifty. However, cases of it have been observed at all ages. M. Billard mentions one where it occurred three days after birth, and M. Serres another in a child three months old;"\* and the following instance came within my own observation through the kindness of a friend.

The infant was a stout healthy male, and until the morning of the day on which he died had shown no symptoms of disease. About seven A. M. he vomited frequently, and in an hour and a half afterwards was suddenly seized with violent convulsions, tossing about the head and limbs, rolling the eyes, and accom-

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\* Andral's Pathol. Anat. Trans. vol. ii. p. 723.

panying these movements with loud shrieks ; in this state he was found by the gentleman who was requested to visit him. The pulse was at this time extremely rapid and hard, the pupils were contracted, the head hot ; but the body and legs, especially the latter, felt cold to the touch, and attempts to vomit were occasionally made. The child was immediately placed in a warm bath, cloths dipped in cold water were applied to the head, and a powder composed of calomel and scammony exhibited. When the infant was removed from the bath, leeches were directed to be applied, and the other treatment usually employed in such cases was judiciously and energetically resorted to. In two hours thereafter a second powder similar to the first was given, as the bowels remained unmoved, and the symptoms continued unabated. At noon the child was again seen ; it then appeared to suffer under all the symptoms of compression of the brain, precisely similar to those generally observed in the last stage of acute hydrocephalus ; the convulsive movements of the limbs had subsided, it emitted occasionally a low moan, the pupils of both eyes were widely dilated, and the pulse was frequent, small, and feeble. A blister was now applied to the head, and two grains of calomel with five of jalap ordered to be given every second hour until the bowels were moved. In spite of the treatment however, the child never showed the slightest signs of amendment, and died between six and seven the same evening, after an illness of rather less than twelve hours' duration. On examination of the body after death, its external appearance presented nothing unusual. On opening the cranium, and reflecting the dura mater from the circumference of each hemisphere towards the mesial line, I found the superficial vessels of the organ distended with blood ; and on the surface of the middle lobe of the right hemisphere a small ecchymosed spot, of about three-eighths of an inch in diameter, situated under the arachnoid, which was quite transparent, and not clouded by any lymph effusion. On making a vertical section through this spot, I saw that it was the apex of a clot, nearly of the size and shape of half a small walnut shell, with the concavity directed upward. The blood was of the consistence and colour of thin currant jelly. The substance of the brain in contact with the clot was of an ochre colour, much softened, reduced in fact to pulp, to the depth of about an eighth of an inch all round. This pulp was examined with the microscope, and consisted of the tissue of the brain, numerous blood-globules, and fluid, but contained none of the corpuscles characteristic of inflammatory softening. The other parts of the brain when cut into were less firm than usual, especially in the affected hemisphere, which seemed as if infiltrated with colourless serum. The quantity of fluid in the ventricles was not greater than natural, and the brain exhibited no other abnormal appearance. The examination of the other cavities of the body was not permitted. On account of the un-

usual occurrence of the affection in so young a subject, the scalp, bones of the cranium, and external surface of the body, were again carefully inspected, but no mark of violence was discernible thereon.

The extravasation most probably originated from arrest of the cephalic venous circulation. In a recent French work on the diseases of children\* it is stated, that of the cases observed by MM. Lombard, Pauchaud, Guibert, and others, in some the sinuses of the dura mater were found obstructed by sanguineous, and in others by purulent concretions; in one instance out of eight that came under the observation of MM. Rilliez and Barthez, the obstruction to the cephalic circulation was situated in the thorax, and consisted in the pressure exerted by an enlarged and tuberculated bronchial gland on the vena cava superior. It would have been in the highest degree difficult, perhaps impossible, for any one to have diagnosed the existing lesion in the foregoing case, no distortion of the features nor paralysis of the extremities being observed. One point however remarkable, was the rapidity of death; and this agrees with what has been recorded of similar cases. Acute hydrocephalus occasionally, yet rarely, terminates so rapidly; but as far as practice is concerned, the differential diagnosis is of little importance, as the treatment either for acute hydrocephalus or for acute apoplexy in young infants must be exactly alike. From the microscopic examination of the softened tissue surrounding the clot, I am inclined to regard its pulpy condition neither as resulting from previous inflammation, nor as arising from the irritation produced by the clot as a foreign body, but as caused by the effused blood having forced its way into and broken up the tissue immediately adjacent to the extravasation.

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## PART II.—REVIEWS.

*Letters in the Athenæum, Nos. 891, 892, by Miss HARRIET MARTINEAU.*

A FEW weeks have scarcely elapsed since with feelings of most painful interest we closed Miss Martineau's volume entitled "Life in the Sick-room." To those of our profession who have been accustomed to study the *mental* phenomena of disease, the picture there presented, though not uncommon, is one of deepest interest. It is the history of a mind in some respects powerful, gradually yielding to the encroachments of disease. It exhibits to us all that morbid sensibility, all that overstrained acuteness to mental and bodily impressions, all those alternate elevations of hope and depressions of despair, which are the characteristic accompaniments of that protean malady with which in her case they were so evidently associated. With her too was that pride of intellect which struggled perhaps half unconsciously with her destiny, which made her

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\* Rilliez et Barthez sur les Maladies des Enfants, tome ii. p. 60.

cast aside that hope which, a solace to others, she was determined to treat as a child's play or day-dream, and that half-affected composure (we fear we must term it so) with which she views her condition as "under sentence of disease for life." At any time the contemplation of such a subject must awaken the deepest emotion in every sympathizing mind; but how is that feeling increased when the portrait is one drawn by the sufferer herself, and by a sufferer who has often in other and happier moods ministered to the amusement as well as the instruction of a numerous class of admirers! Not that we dare to pity Miss Martineau. On her such pity would be mere idle waste—"selfishness." It would encroach on that self-respect upon which she built so much.

To those who are familiar with Miss Martineau's works, and who have studied them more deeply than merely to enjoy the exquisite tenderness of some cottage scene, or the wonderful simplicity of her beautiful tales, the morbid state of her mind, when affected by bodily suffering, will occasion no surprise. They will remember the predominance of the imaginative in all her writings, and will recall a hundred instances of over-refinement, always too ready to pass into a morbid state; and they will have often lamented the absence of that practical common sense which deals with the affairs of ordinary and every-day life, and affords the surest foundation for a solid judgment.\*

In one of the most admirable of his critical lectures, Coleridge describes Don Quixote as "a substantial living allegory, or personification of the reason and the moral sense divested of the judgment and the understanding. Sancho is the converse. He is the common sense without reason or imagination. \* \* \* \* \* These two characters possess the world, alternately and interchangeably the cheater and the cheated." (*Literary Remains*, vol. i. p. 119.) The description of Cervantes is undoubtedly a caricature, but it is a caricature of which we meet many faint resemblances in every-day life.

With such an opinion of the characteristics of Miss Martineau's mind, and surely it is no disparagement to that gifted authoress if we hold that nature has not left her free from mental blemishes, it did not much surprise us to hear that her disease had been removed by mesmerism. And here it is worth while stopping for a moment to inquire why it is, not only with the vulgar, but even with those of superior endowments, that the alleged cure of Miss Martineau is calculated to produce a movement in favour of mesmerism, much greater than if the case had been recorded as that of H. M. or any other unknown individual. In the first place, there is the fact of acquaintanceship, for hundreds who have read over and over again the advertisement of some quack nostrum, and unheedingly passed by its numerous well-authenticated cases of cure,

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\* The very object of Miss Martineau's popular writings has always appeared to us utopian in the highest degree, and we believe that nineteen out of twenty of her readers perused her tracts on political economy solely for the exquisite beauty of the tales, without taking the trouble to draw from them the moral she intended, or to read the moral which she saved them the trouble of drawing for themselves. In proof of this assertion we subjoin the following extract, from an article in the November number of the *North British Review* on political economy, ascribed by general report to Dr Chalmers. "The proposal, as acted upon by Marret and Martineau and others, to bring about a general postponement of marriage by the circulation of popular tracts charged with the philosophy of the subject, \* \* \* this we have ever held to be a most ridiculous undertaking, a truly grotesque and impractical method for the accomplishment of the object which it professes."

will swallow it with confidence if their next-door neighbour affirms that it has exercised a beneficial effect on his complaint. And a popular authoress is a universal acquaintance, and hence we feel towards her all the sympathy and confidence which acquaintanceship produces.

But again, the temple of fame standing on its precipitous hill is approached by many an arduous path; and although it is true that they who have traversed these can best describe their bearings and give information as to their features and general characteristics, yet as each path has its own peculiar features, its own difficulties, its own pitfalls, he who has effected the ascent of *one* is often on that account just the more unfitted for detecting the windings and the devious tracks of the others. Yet the world in general act as if this was not the case. Let a man acquire eminence in any one particular department,—let his name become familiar as a household word, and straightway his authority will be supposed to have an extent almost universal, and he will be deemed capable of solving all the *questiones versatas* which each science presents. If time permitted, it were easy to demonstrate the baneful effects which have resulted from this popular and wide-spread fallacy, and how, by the intrusion of men exceedingly well informed in one department into others about which they were very ignorant, they have done disservice alike to both. Now so it is, that although we would willingly concede to Miss Martineau all the homage which her most ardent admirers can demand for her talents, we hold her to be altogether unqualified to bear testimony in favour of the alleged power of mesmerism.

But let us consider her own statement on the subject. We may premise that her disease was said to be carcinoma uteri. Our readers will, of course, at once see that there are only two ways in which such a disease could be removed,—either by a separation of the diseased part from the sound, and the subsequent discharge of the former—an effect which would have been of course observable, or by the vital action of absorption, in which case the diseased mass would in all probability have contaminated the entire frame, producing cancerous cachexia.\*

Miss Martineau's first letter is dated November 12. She professes that for some years past she had been a believer in mesmerism. She had been brought to this conviction without having witnessed any of what she terms "mesmeric facts;" "but," she adds, "I could not doubt the existence of many which were related to me without distrusting either the understanding or the integrity of some of the wisest and best people I knew." In the same paragraph she apologizes for a belief in the preposterous absurdities of mesmerism, by comparing them to the strangeness of the discoveries of Harvey and Bell, apparently unaware that, while the former are opposed to all reason and contradictory to all experience, the latter were merely the following out of those acquisitions by which the territory of our knowledge had been for some years extending. The disease under which Miss Martineau was supposed to labour commenced in June 1839. For the three succeeding years it increased rapidly, but for the two years preceding her trial of mesmerism it had been stationary. "During these five years," she says, "I never felt wholly at ease for one single hour. I seldom had severe pain, but never entire comfort. A besetting sickness almost disabling me from taking food for two years, brought me very low, and, together with other evils, it confined me to a condition of almost entire stillness—to a life passed between my bed and the sofa." Medical readers will be at no loss to account for all

\* We, of course, do not think it necessary to include the ossific transformation, which, although common in the lower animals, is very rare in man.



these symptoms, even without supposing the presence of any organic disease, when they find her stating also, "My dependence on opiates was desperate."

Miss Martineau's first *séance* was on the 22d of June, when Mr Spencer Hall magnetized her "between the expiration of one opiate and the taking of another." The first passes were ineffectual, but at last "passes over the head made from behind," and "passes from the forehead to the back of the head" had the effect. But she shall tell her own story.

"Twenty minutes from the beginning of the *séance* I became sensible of an extraordinary appearance, most unexpected, and wholly unlike any thing I had ever conceived of. Something seemed to diffuse itself through the atmosphere, not like smoke, nor steam, nor haze, but most like a clear twilight closing in from the windows and down from the ceiling, in which one object after another melted away till scarcely any thing was left visible before my wide open eyes. First, the outlines of all objects were blurred; then a bust standing on a pedestal in a strong light melted quite away; then the opposite bust; then the table with its gay cover; then the floor and the ceiling, till one small picture high up on the opposite wall only remained visible like a patch of phosphoric light. I feared to move my eyes lest the singular appearance should vanish, and I cried out 'Oh, deepen it, deepen it!' supposing this the precursor of the sleep. It could not be deepened, however; and when I glanced aside from the luminous point, I found that I need not fear the return of objects to their ordinary appearance while the passes were continued. The busts reappeared ghostlike in the dim atmosphere, like faint shadows, except that their outlines and the parts in the highest relief burnt with the same phosphoric light. \* \* \*

Wherever I glanced all outlines were dressed in this beautiful light, and so they have been at every *séance* without exception to this day, though the appearance has rather given way to drowsiness since I left off opiates entirely."

On a subsequent occasion, while taking a walk, her mesmerist (she had got a lady to operate now) "merely laid her hand on my forehead, and in a minute or two the usual appearances came, assuming a strange air of novelty from the scene in which I was. After the blurring of the outlines, which made all objects more dim than the dull gray day had already made them, the phosphoric lights appeared, glorifying every rock and headland, the horizon and all the vessels in sight. One of the dirtiest and meanest of the steam-tugs in the port was passing at the time, and it was all dressed in heavenly radiance—the last object that any imagination would select as an element of a vision." It is rather too absurd, after this detail of waking reveries, to find Miss M. herself gravely asking the question, whether or not it was all fancy, and then from its repeated recurrence answering this question in the negative, though what it was if not fancy we are allowed to remain in utter ignorance. Was Miss Martineau at this time a guest in the Castle of Indolence! there such pleasant revelations have before fascinated the senses.

"A pleasing land of drowsy-head it was,  
Of dreams that wave before the half-shut eye,  
And of gay castles in the clouds that pass,  
For ever flushing round a summer sky:  
There eke the soft delights that witchingly  
Instil a wanton sweetness through the breast,  
And the calm pleasures always hovered nigh,  
But whate'er smacked of 'noyance or unrest  
Was far, far off expelled from this delicious nest."

After the second operation, Mr Hall was prevented from seeing his

patient, and in despair she applied to her servant, who in two or three minutes produced the desired effect. "But the patience and strenuous purpose required in a case of such long and deep-seated disease, can only be looked for in an educated person, so familiar with the practice of mesmerism as to be able to keep a steady eye on the end, through all delays and doubtful incidents; and it is also important, if not necessary, that the predominance of will should be in the mesmerist, not the patient. The offices of an untrained servant may avail perfectly in a short case for the removal of sudden pain or a brief illness, but from the subordination coming from the wrong party, we found ourselves coming to a stand." Another mesmerizer was accordingly procured in the shape of the widow of a clergyman, and "when," says Miss Martineau, "I found myself able to repose in the knowledge and power (mental and moral) of my mesmerist, the last impediments to my progress were cleared away, and I improved accordingly." But as the case proceeded, new phenomena were developed. "As the muscular power oozes away under the mesmeric influence, a strange inexplicable feeling ensues, of the frame becoming transparent and ductile. My head has often appeared to be drawn out, to change its form according to the traction of my mesmerist," &c. &c. On reading this, we are inclined to inquire, as Miss M. herself did regarding the lights, is the feeling real or fanciful? As it occurred repeatedly, we must, according to Miss M.'s reasoning, conclude that it was real, and that her head *was* of so ductile a nature as to be drawn out or compressed at the will of the magnetizer. We would suggest to the phreno-mesmerists the advantages that might attend the conferring of such ductility on human crania. They might then mould them at will, and develop their organs with prodigious effect, till the whole nature of the man should be entirely changed.

At a subsequent stage of the treatment, a new agent was brought to bear upon the cure. The niece of her landlady, a girl of nineteen, was magnetized in order "to improve her infirm health, and for obtaining light as to the state and management of my case, then advancing well, but still a subject of anxiety." This young person was magnetized, and then prescribed for Miss M. "I cannot here detail," says the latter, "the wonderful accuracy with which she related, without any possible knowledge of my life ten or twenty years ago, the circumstances of the origin and progress of my ill health, of the unavailing use of medical treatment for five years, and the operation of mesmerism on it of late."

A vessel having been wrecked in which a son of the girl's aunt was supposed to be drowned, and the night being too stormy for her to walk to Shields to inquire the particulars, a much simpler method was resorted to. The young woman was thrown into the magnetic sleep, and immediately gave them the fullest history of all that had occurred—the safety of the crew, and the manner in which they were saved. Some individuals there may be, of so credulous a temperament, that they may be brought to believe that in a magnetic sleep a man can see with other organs than the eye, and hear with other organs than the ear;\* but we unhesitatingly affirm that such statements as those we have recorded, and innumerable others which we might quote, *if true*, prove incon-

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\* "The somnambulist uses neither eyes nor ears, and still he sees and hears better than if he were awake."—*Du Magnétisme Animal en France*, par A. Bertrand, page 292.

testably that the source from which these informations are derived must have its origin from a being who is omnipresent and omniscient, and, if we are really to believe such marvellous relations, it must be that that Spirit to whom alone these attributes belong had delegated, for some inscrutable purpose, a power of this kind to the "silly women," who are here exhibited. Miss Martineau is, we believe, a rationalist;—we would ask her, with all seriousness, whether the mysteries which she refuses to receive with simple faith from the highest of all authorities, are more inexplicable than those which she thus devours with such easy credulity?

One instance of this young woman's prescription is given. Miss M. was giving up laudanum, when her fortitude almost gave way, and she bethought herself of having recourse to it once more. In the moment of uncertainty the sorceress was consulted. "She said at once what my sufferings had been, and declared that I should sleep more and more by degrees, if I took (what was as contrary to her own ordinary ideas of what is right and rational as to mine)—ale at dinner and half a wine-glassful of brandy in water at night." Miss Martineau "obeyed, took it for a week, and so lost her miseries."

In winding up our digest of Miss Martineau's account, we refer with regret to the way in which she attempts to defend herself from ridicule in what she had done. Her reference to the miracle of the blind man would we think have been better omitted, unless indeed she holds the doctrines of Richter, that all the miracles of the New Testament are performed by means of animal magnetism. She too must have a theory as to the manner in which animal magnetism acts, and we are accordingly presented with a vague and indefinite hinting at the mysterious powers of nature, and how these powers may be increased by mesmerism so as to enable them to throw off a disease which had previously bid them defiance. For our own parts, we have an absolute horror at transcendentalism, and infinitely prefer Wolfart's solution of the action of this mysterious agent. "When," says this distinguished magnetist, "the vital dance of the viscera flags, we must lend it a helping hand. We must strike up, and play vigorously, joyously, and in elevating harmony; then the organs which were fatigued, or disordered, or out of tune, will begin to dance regularly in intertwining mazes, until they will at length sing to themselves the appropriate rhythm, without requiring the aid of our medical music; but were we to fiddle unmelodiously, or too violently, the viscera would remain deaf and unmoved in their places, or would fly the scene, and there would be no dancing. The best medicine of the ordinary kind can only strike up a tune, and that truly is much; but magnetic medicine can not only strike up a tune, it can lead and join the dance, and that is much more," &c. &c. &c.—*Wolfart's Annals of Magnetism*, vol. ii. part ii. page 29.

We really cannot waste our own and our readers' time by any further quotations; we shall therefore conclude by a very brief commentary on the statements for which Miss Martineau is so ready to vouch. Do we then disbelieve these statements? Most certainly not, as far as Miss M.'s personal experience is concerned. In the first place, it is very evident, if she is really restored permanently to good health, that her medical advisers must have been mistaken as to the nature of her case. We are all aware that, at a certain period of female life, when the system no longer relieves itself by its accustomed channels, certain functional disorders are apt to arise, producing in many cases extreme suffering, and creating the sus-

picion of the existence of malignant disease. All medical men are also aware, that in many cases it is difficult, perhaps impossible, to distinguish these from the commencement of malignant action, and the records of medical experience indubitably prove that in many instances mistakes have been committed. These affections are found in many cases to cease spontaneously; and, where they are associated, as they often are, with a highly nervous temperament, a powerful influence acting on the imagination will often be sufficient to overcome them.

In the second place, we may remark that peculiar state of the nervous system which the habitual taking of opium engenders, the results of which were so affectingly displayed in Miss Martineau's last publication. We have known instances, and our professional brethren can easily substantiate this, where, when some strong agency has been brought to bear on those whom that pernicious system has reduced to a state of confirmed bad health, cures as surprising as those of Miss M. have been performed by the resolute discontinuance of the daily poison. If, as we are led to believe, the "specific medicine" which Miss Martineau "had been taking for upwards of two years" was iodine, those who are acquainted with the peculiar effects of this medicine will be at no loss to understand many of the symptoms, and to explain much of the cure by which its discontinuance was followed. The peculiar giddiness, nausea, and loss of appetite, muscular weakness, emaciation, and sense of sinking, which, when taken for a long time, it produces, will often cease very speedily when its use is given up. But even were iodine not taken, the explanation is not difficult. We find a lady, gifted undoubtedly with considerable talent, but with great preponderance of the imaginative in her composition, affected with a severe disease, but of which one of the chief elements is an over-excited state of the nervous system, locally and generally. By an unfortunate but very pardonable mistake, this is supposed to be a malignant and incurable disease; the patient is candidly informed of her supposed irremediable condition; in order to palliate her symptoms, remedies calculated to diminish still further the tone of the nervous system are resorted to; under their injurious influence, health and strength are gradually giving way; but from the very first there had been a persuasion in the patient's mind that one supposed remedy might possibly prove beneficial; means are afforded by which this can be tried; hope, the most powerful of all the stimuli to the nervous system, is excited; under its influence the patient temporarily gives up those false supports on which her "dependence had formerly been so desperate;" the nervous system begins to recover its tone; her hopes are thus encouraged, and this again re-acts favourably on the nerves, till sufficient strength is attained to enable her to discard them altogether.\*

In a recent article on "Quackery in Diseases," the *modus operandi* of these apparent cures was fully explained; it is therefore unnecessary to discuss it here. However gifted Miss Martineau may be, one thing at least is clear,—she has studied neither the elementary constitution of the morbid product which she believes to have been removed, nor the mode of action of that agent by which she believes its removal to have been effected. On

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\* The only interruption in the progress of the cure was when the magnetizing was performed by the servant. Confidence was for a time lost, hope was diminished, recovery was retarded. But when a person "on whose knowledge and power she was able to repose" undertook the management, confidence and hope were again restored, and the cure progressed accordingly.

this account she claims the character of an impartial witness, although it is very obvious that she is deficient in the first requisite—the knowledge of “How to Observe.” Were morals or manners\* her theme, we might listen with respectful attention; but in a subject so alien to all her pursuits, and so much above even *her* powers, we refuse to depart from the teachings of reason, common sense, and experience. There are certain fixed principles, which in these days of restless mental excitement it were well that men would firmly lay hold of. When the wave of error is sweeping past, and carrying on its summit the light and fantastic bodies which always dance on the surface, these may appear to have been left behind in its rapid advance. But as surely as it flowed, so it must also ebb; and that which, fixed and immovable, calmly stood its onward sweep, will be found again in advance when the receding flood rolls back its restless waves.

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*Urinary Deposits, their Diagnosis, Pathology, and Therapeutical Indications.*

By GOLDING BIRD, A.M., M.D., Assistant Physician to, and Lecturer on Materia Medica at, Guy's Hospital; Licentiate of the Royal College of Physicians; late President of the Westminster Medical Society, &c. &c. 12mo, pp. 351. London, 1844.

THE inspection of the urine with the simplified aids of recent chemistry promises to be of more important service for the discovery of the nature and proper treatment of many anomalous or still undefined affections of the living frame than any other mode of inquiry hitherto devised can offer. The state of the urine in diseases has engaged the attention of the medical profession from the earliest ages down to our own. But the diseases in which it has been chiefly studied, namely diseases of a febrile character, are not those in which there is the greatest need for the assistance which it can afford in practice. Of numerous morbid affections of a severe description, falling under the head of disturbances in assimilation and derangements of the nervous system, many are already known, and a greater number may be suspected, to arise from primary disorder, of a kind to be indicated by changes in the urine, and to be remedied by means fitted to counteract such changes.

The work we have placed at the head of this article, by Dr Golding Bird of Guy's Hospital, is entitled “Urinary Deposits, their Diagnosis, Pathology, and Therapeutical Indications.” It is a moderate-sized duodecimo volume of about 350 pages. It contains the substance of Dr Bird's papers on this subject in Guy's Hospital Reports, and of a short course of lectures delivered last year to the pupils of the same hospital, and reported in the London Medical Gazette. These papers and lectures had been already translated and collected into a volume published at Vienna by Dr S. Eckstein. The publication of this German volume was Dr B.'s inducement to re-write the whole and give it to the world in its present form.

The work, as might be anticipated from Dr Bird's reputation, contains a great deal of valuable matter on the important subject of which it treats. Yet that valuable matter is hardly, as we think, digested in that manner,

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\* How to Observe—Morals and Manners. By Harriet Martineau.

or reduced to that compact form, which answers to the wants of the practitioner for daily use.

When a work is designed for the use of medical men engaged in the busy pursuits of practice, much pains should be bestowed on keeping purely speculative views completely apart from the precepts applicable to the diagnosis and treatment of actual maladies. In this, we think, Dr Bird has failed. Speculative views are properly addressed to those who are bent on making new discoveries; they are seldom necessary for the mere practical explanation of what has been already ascertained. We are far from wishing that Dr B. had suppressed his speculations on the secretion of urine in connexion with assimilation—we merely regret that these had not been placed more distinctly apart from the rest of the work. For, as it stands, the practitioner seeking for information in a case that will brook no delay is apt to stumble on chemical symbols with which he has not thought it necessary to make himself familiar, or on arguments against Liebig's views, supported by calculations, the attempt to understand which would lose him many miles of his appointed day's round. This kind of complication is least of all excusable in the case of the urine; for the neglect of it in the investigation of diseases arises less from a too low estimate of its importance, than from the want of time among the busy to study and apply the means of ascertaining its alterations.

Besides an introduction and appendix, Dr B.'s work consists of ten chapters, the titles of which will present some notion of the subjects treated of:—1st, Physiological Origin and Physical Properties of the Urine; 2d, Chemical Physiology of the Urine; 3d, Chemical Pathology of Uric Acid and its Combinations; 4th, Chemical Pathology of Uric Oxide; 5th, Chemical Pathology of Purpurine; 6th, Chemical Pathology of Cystine; 7th, Chemical Pathology of Oxalate of Lime (Oxaluria); 8th, Chemical Pathology of the Earthy Salts; 9th, Deposits of Black or Blue Colouring Matters; 10th, General Pathology of Non-Crystalline Organic and Organized Deposits. The subjects are illustrated with numerous woodcuts, principally representing the various forms of the crystalline deposits.

Instead of extracting detached passages from Dr Bird's work, we propose to devote the remainder of our space to exhibiting a connected but very elementary view of the principal facts ascertained up to this time respecting the urinary function, applicable to the diagnosis and treatment of diseases. In putting together such a view we shall draw not merely on Dr Bird's treatise, but also on the several works which within a few years have been published on this subject, both in this country and on the Continent, such as those of Prout, Christison, Bequerel, Solon, Rayer, Willia, Rees, Jones, &c.

We shall briefly consider the urine in its healthy state, the variations on its ordinary constituents in disease, the production of new substances in the urine, the means of ascertaining its several changes, and the treatment most suitable to each—in as far as our limits permit.

*Healthy Urine.*—Quantity about 40 ounces, less in summer and in warm climates; specific gravity from 1.012 to 1.030; mean about 1.022; on standing, a slight cloud; little tendency to putrefaction after filtration; urea, one part in from 60 to 80 (or more than half an ounce) on the whole urine of twenty-four hours; less in the urine of females, of children, and of old men; uric acid to the extent of about one part in 2500 (or nearly 8 grains) on the urine of twenty-four hours, the same, nearly, as one-fifth part of a grain to the ounce; acid to test-paper till putrefaction has com-

menced; lime-water gives a moderate precipitate even after considerable dilution; solution of acetate of lead, or of nitrate of baryta, gives a copious precipitate, part of which is re-dissolved by nitric acid; sulphuric or nitric acid heightens the colour and smell of urine; at specific gravity 1·014, 1000 grains of urine contain 32 grains of solid matter; at specific gravity 1·030 the same quantity contains 70 grains; at specific gravity 1·014 a pint of urine (8750 grains, or 20 ounces avoirdupois) weighs 2887 grains; at specific gravity 1·030 the same quantity weighs 9012 grains.

*Changes on the Normal State of the Urine.*—Diuresis is the term which denotes a simple increase in the secretion of urine. In diabetes, in which the urine attains its maximum quantity, it must be saccharine as well as abundant. Diuresis occurs sometimes in the cold stage of intermittents, in continued fevers of a phlogistic type as a favourable crisis, and sometimes throughout the whole disease in those in which disturbance of the nervous predominates over that of the vascular system. The same is true of eruptive fevers, like measles and small-pox; yet a copious discharge of urine has been observed sometimes to usher in malignant forms of the eruptive fevers. In inflammations the urine is seldom increased till a favourable crisis occurs, and then it is not unfrequent, as in pleuritis, peripneumonia, hepatitis, cynauche parotidea, and the like. To come to chronic diseases, diuresis is most remarkable in hysteria, asthma, rheumatism, gout, and spasmodic colic.

Scanty urine attends active inflammation and phlogistic states of the system, as when the inflammatory type marks continued and eruptive fevers. In such diseases scanty urine after a favourable crisis should make us apprehensive of a relapse. Scantiness of urine also is often among the first threatenings of the onset of a disease. Scantiness of urine during the convalescence from fevers is held to threaten dropsy, though it sometimes is present temporarily merely from relaxation of the bladder. Of chronic diseases, urine is scanty in congestions of the abdominal organs, in colica pictonum, and some other forms of colic, in diseases of the liver, in diseases of the heart, &c.

As a general rule in diseases, as well as in health, when the quantity of urine is increased, its density diminishes, and *vice versa*. The exceptions to this rule are diuresis with increased discharge of urea, corresponding to the old diabetes insipidus, and diuresis with saccharine urine, or the true diabetes.

The cloud which healthy urine for the most part deposits is nothing but a minute quantity of the mucous secretion of the urinary passages. An increase in the proportion of this mucus is one of the ordinary forms of thick urine. This varies from a slight increase in the usual cloud to a gelatinous or ropy thickness, which permits the vessel to be inverted without losing any portion of its contents. The presence of a calculus, chronic inflammation of the lining membrane of the urinary passages, as after gonorrhœa, also stricture, and other similar irritations, give rise to this increased secretion of mucus.

There may be either a deficiency or excess of urea. Deficiency of urea has been held, in particular, to attend saccharine diabetes and granular degeneration of the kidney. It seems to be a settled point that it is deficient under granular degeneration of the kidney, and this is the case in which urea has been detected in the human blood. In saccharine diabetes, however, the amount of urea varies much more than could be suspected

from our common treatises. And we have cause of complaint against Dr Bird for not stating this distinctly. It is more than twenty years since it began to be shown in the Edinburgh clinical courses that urea is not absent in diabetic urine. The real state of the case cannot probably be better represented than in the words of Dr Prout, in the last edition of his work "On Stomach and Urinary Diseases :—" "The quantity of urea," he says, "is sometimes much diminished; though I have never met with a specimen in which this principle was entirely absent; and in some instances urea is said to exist in diabetic urine in greater proportion than natural.\*"

In the early part of continued fever free from putrescence, urea, when sought for, is usually found to be abundant. A year ago Professor Henderson drew attention to some cases of the late epidemic fever, in which the defective excretion of urea gave rise to severe affections of the brain, usually fatal. In some of these cases urea was obtained by Dr D. MacLagan from the blood, and even from the serum collected from the ventricles of the brain.† This discovery suggests views of the greatest value as to the cause at times of the unexpected termination of acute diseases with severe head symptoms. Dr Christison, we think, in his excellent work on "Granular Degeneration of the Kidneys," first suggested the suppression of the excretion of urea as a probable cause of overlooked-for fatal turns in acute diseases in general. Our time, however, does not permit us to enter on the consideration of these at present.

Of the cases of deranged health in which an excess of urea occurs, some are attended with a diuresis, others have a quantity of urine not beyond natural. The increase in the amount of urea appears to be greater in the former than in the latter order of cases. Dr Prout considers the morbid states marked by an excess of urea as dependent on defects in the processes of assimilation, and as likely, if neglected, to pass into saccharine diabetes.

The deposit of uric acid from the urine on cooling does not take place in its most perfect state. Yet this deposit falls in a great variety of circumstances, some of which hardly constitute a deviation from health. During a febrile attack the urine commonly remains clear, but as the febrile state remits, a deposit of uric acid or urate of ammonia appears. Slight derangements, as from errors of diet, want of exercise, and from whatever diminishes the cutaneous secretion, are attended with the same deposit. The lateritious sediment of hectic fever is chiefly uric acid. In all these cases the sediment is composed of an impalpable powder, and varies in colour. Prout regards the uric acid deposit as most commonly under the form of urate of ammonia. When it has a yellow colour it arises from a mixture of the yellow colouring matter of the urine; when red, there is besides a portion of purpurate of ammonia, the purpurine of Dr Bird; and when pink, the proportion of purpurate is at its maximum. The urine which deposits these sediments is generally more acid than the urine of health; the proportion of fluid is small, and the density high.

The earthy phosphates, namely the phosphate of ammonia and magnesia, and the phosphate of lime, often become abundant in the urine,

\* P. 26.

† See Professor Henderson's paper, *Edin. Med. Surg. Journ.* Jan. 1844; also Mr Taylor's paper, *Scottish and North of England Med. Gazette*, No. 10.



and form a white precipitate or a pellicle on its surface. This deposit may imitate the cloud of the mucous secretion. It is easily distinguished by the addition of a few drops of nitric acid, which dissolves the phosphatic deposit. These deposits sometimes take place from slight causes, as from excessive perspiration under violent exercise; but when frequent or long-continued, they are attended with much general derangement of health. The phosphate of ammonia and magnesia constitutes what is commonly called white gravel, or it falls in the form of perfectly white minute shining crystals. The ill health attendant on this kind of deposit comes under the head of nervous derangement, more particularly affecting the respiratory organs in asthmatic forms, and the bowels in endless flatulent miseries.

The phosphate of lime falls in the form of a white impalpable powder, tinged sometimes with the colouring matter of the urine. This deposit is apt to occur in gouty and rheumatic habits, and often along with scaly eruptions on the skin. It appears that this phosphate is not merely secreted from the kidney as a constituent of the urine, but that, under local irritations, it is often derived in immense quantity from the mucous lining of the whole extent of the urinary passages.

Bad as the state of the patient is when either of these salts is deposited singly, much greater is the lesion of the health when, as more frequently happens, both are thrown down together. The double deposit is most frequently the effect of local diseases of the urinary organs, such as affections of the bladder and prostate, or of enfeebled states of the spinal nerves, and other derangements of the spine from injuries, excessive fatigue, and the like. The same double deposit, however, is met with in gout, asthma, and cutaneous diseases.

To changes in the proportion of the soluble salts of the urine, as the alkaline phosphates, and sulphates and muriates, little attention has hitherto been paid.

*Appearance of Substances not naturally present in Urine.*—Our remarks will turn chiefly on alkaline urine, albuminous urine, oleo-albuminous urine, saccharine urine, the oxalic acid diathesis, kiesterin, hippuric acid—the other changes we must be content simply to enumerate.

*Alkaline Urine.*—The carbonates of the alkalies do not naturally exist in the recently secreted urine. When urine newly passed, instead of being acid, is alkaline to test-paper, it is found to contain carbonate of ammonia, or carbonate of ammonia along with carbonate of soda, or as Prout conjectures along with carbonate of potass. When the alkaline property of recent urine depends on the carbonate of ammonia, it is usually distinguished at once by an ammoniacal smell. The source of this carbonate of ammonia is manifestly two-fold—namely, the rapid putrefaction of the urine after secretion, and before its expulsion, or the secretion of it from the blood with carbonate of ammonia replacing urea. The alkalinity of recent urine, when owing to rapid putrefaction, has sometimes merely a local source, as when the putrefaction originates in an excess of the mucous secretion of the urinary passages, from inflammation or irritation of the lining membrane. As a general rule, when the alkalinity is merely ammoniacal, the urea is deficient, for this obvious reason, that the carbonate of ammonia is produced at the expense of the urea. An important question arises here, when the urine is plainly secreted from the blood in an ammoniacal state—namely, has the blood itself in such cases a putrescent tendency? It is an old remark that

ammoniacal urine belongs to the diseases termed putrescent, as typhus, scorbutus, and the like. And probably the old rule is well founded, that the danger in these is proportioned to the intensity of the putrescent odour in the urine; for it does depend on the tendency of the blood to putrefaction. But it has been observed that urine, ammoniacal from the period of its secretion, is not always distinguished by the strong fetor of putrefaction, but merely by an ammoniacal smell. On this subject, then, further inquiry is requisite, to determine on what other conditions, besides the putrescent tendency in the blood, the urea of the urinary secretion is exchanged for carbonate of ammonia.\* Among the diseases in which this alkalinity has been observed to arise, without evidence of putrescence in the blood, are diabetes and dropsy. In alkaline urine the proportion of uric acid is often unduly large, existing in combination with soda and ammonia. The source of the superabundance of the fixed alkali appears to be occasionally a secretion of the serous part of the blood thrown off by the lining membrane of the urinary passages even as high as the kidney, from causes directly affecting this membrane. When the membrane of the bladder alone is affected, the disease is more generally marked by the predominance of urate of ammonia. In alkalinity from the fixed alkali, the prognosis is unfavourable, unless produced by causes of temporary operation.

*Albuminous Urine.*—There are two principal kinds of albuminous urine—albuminous urine with low specific gravity and defect of urea, and albuminous urine of ordinary density without alteration in the proportion of urea. The former indicates disease of the most formidable character, as granular disease of the kidney; the latter attends diseases both febrile and chronic, which are perfectly curable.

*Oleo-albuminous Urine.*—The nature of the derangement of health on which the kind of urine termed “oleo-albuminous” depends, has been but imperfectly ascertained. Under this alteration it sometimes concretes into a solid substance resembling blanchmange, and this change has been known to occur occasionally for many years without permanent injury to the health.

*Saccharine Urine.*—Urine abundant in quantity, of high specific gravity—namely, above 1.026—and having a sweet taste, is probably pathognomonic of diabetes. Its chemical constitution in other respects is little altered, except in the proportion of water. It is now universally allowed, as hinted at above, to be a mistake that urea is absent; it is, however, believed to be deficient in uric acid. But it is to be remembered, that eight grains of uric acid in the whole diabetic urine of twenty-four hours may readily escape detection. According to Dr Bird, a saccharine state of the urine is not uncommon in dyspepsia, to an extent sufficient to originate vegetations of the genus torula or saccharomyces.

*Oxalate of Lime.*—As a form of urinary concretion, oxalate of lime has been long known under the name of mulberry calculus. Dr Prout speaks of the oxalic acid diathesis as occurring in hundreds of individuals for a few that are affected with the mulberry calculus. He even regards the formation of the mulberry calculus as less dependent on the presence of this diathesis than on accidental circumstances. The symptoms resulting from this diathesis, according to the same authority, vary exceedingly in degree as well as in kind; symptoms resembling dyspepsia, flatulence,

\* See Case of Carbonate of Ammonia in the Urine the Effect of Injury, by C. Ransford, M. D., Edin. Med. and Surg. Journal, vol. li., p. 417.

irregular action of the heart, and, at times, great bodily suffering and mental excitement bordering on insanity. It is sometimes the effect of injuries, at other times a syphilitic taint has been suspected.

Dr Bird is an original authority on the subject of the oxalic acid diathesis, in a paper published two years ago in the Medical Gazette. He has shown the presence of a deposit of oxalate of lime from the urine to be much more common than had been suspected before. The following passage we cite from the work before us to show Dr B.'s view of the morbid state of the system under the oxalic acid diathesis :—

“ It is difficult, notwithstanding the experience we have had of this ailment, to offer a very satisfactory account of the symptoms attending it. As a general rule, however, persons affected with the disease under consideration are generally remarkably depressed in spirits, and their melancholy aspect has often enabled me to suspect the presence of oxalic acid in the urine. I have seldom witnessed the lurid greenish hue of the surface to which Dr Prout has referred. They are generally much emaciated, excepting in slight cases, extremely nervous, and painfully susceptible to external impressions, often hypochondriacal to an extreme degree, and in the majority of cases labour under the impression that they are about to fall victims to consumption. They complain bitterly of incapability of exerting themselves, the slightest exertion bringing on fatigue. In temper they are irritable and excitable ; and in men the sexual power is generally deficient, and often absent. A severe and constant pain, or sense of weight, across the loins, is generally a prominent symptom. The mental faculties are generally but slightly affected, loss of memory being sometimes more or less present. Well-marked dyspeptic feelings are always complained of. Indeed, in most of the cases in which I have been consulted, I have been generally told that the patient was ailing, losing flesh, health, and spirits, daily ; or remaining persistently ill and weak, without any definite or demonstrable cause. In a few the patients have been suspected to be phthisical. It is, however, remarkable, that I have yet met with very few cases in which phthisis was present. In three cases I have seen the cases terminate in the formation of a calculus. In one, the concretion passed spontaneously from the urethra ; in another, it became impacted, and was cut out by Mr Harding ; and in a third case the stone was removed by the operation of lithotomy performed by my colleague, Mr Hilton.”

On the subject of Kiesteiu, the supposed principle peculiar to the urine of pregnant women, our author is also an original authority. From his account of this matter we cite the following passages. These are not continuous—but we cannot spare room for the whole, though the cases are highly interesting :—

“ An account of the supposed discovery of a peculiar mucilaginous principle in the urine of pregnant women appeared a few years ago in several of the British and foreign medical journals, and attracted much notice as a diagnostic sign of pregnancy. This new constituent of the renal secretion, to which the name of *Kiesteiu* was applied, was stated to exist in the urine of the human female during utero-gestation, and to become visible when the secretion is allowed to repose in a cylindrical vessel, in the form of a cotton-like cloud, which in a lapse of time varying from the second to the sixth day of exposure, becomes resolved into a number of minute opaque bodies, which rise to the surface, forming a fat-like scum, remaining permanent for three or four days. The urine then becomes turbid, and minute flocculi detach themselves from the crust, and sink to the bottom of the

vessel: this action continues until the whole pellicle disappears. This crust of Kiestein was stated to be distinguishable from analogous pellicles which occasionally form on the surface of urine, from its never becoming mouldy, or remaining on the surface beyond three or four days from the time of its complete formation."

On the subject of hippuric acid, which has of late drawn some attention, we cite the following passage:—

"Much attention has been lately drawn to the effects of benzoic acid in preventing the formation of uric acid, by the observations of Mr Alexander Ure. When this acid or its salts are administered, they are acted upon by the stomach in a very different manner from the other vegetable acids. Instead of becoming oxidized, and being converted into carbonic acid, it combines with those nitrogenized elements which would otherwise have formed urea or uric acid, and is converted into hippuric acid. It has been stated that the quantity of uric acid falls, when the benzoic acid is administered, below the average quantity, or even disappears from the urine. This has been, however, shown by Dr Garrod to be an error, and that urea alone disappears. Be this as it may, it is certain that the acid does appropriate to itself some body rich in nitrogen to form hippuric acid; and experience has shown that, in cases where an excess of uric acid is secreted, the administration of this drug appears to limit it to about the normal quantity."

Of uric oxide, the zanthic oxide of Marcet; cystine, the cystic oxide of Wollaston; purpurine, the purpurate of ammonia and soda of Prout; butyric acid, cyanourine, Indigo, Prussian blue, melanourine, we cannot take time to speak; all of these are alleged to have been found in the urine, and are treated of by our author. And besides these, we must pass by the blood, pus, milk, spermatozoa, oil, and epithelial debris which are occasionally met with, and are here described.

*Examination of the Urine.*—The density of the urine is readily determined by the small hydrometer, with a limited scale, kept in the shops under the name of Urinometer. We wonder to see Dr Bird countenancing so superfluous and barbarous a name as gravimeter for this instrument. The weighing of the urine in a phial, or even in the globular vessel found at the instrument-maker's, which holds exactly a thousand grains of distilled water, is too troublesome, and not more exact, unless particular pains be taken.

From the specific gravity, an approximation may be made to the quantity of solid matter contained in a given quantity, as in 1000 grains. Dr B. adopts Dr Christison's formula for this purpose, namely, if the difference between 1000 and the density of urine (say 1030, or 30), be multiplied by 2.33, the product is (69.9), nearly the amount of solid matter in urine of that density.

The proportion of mucus in urine appears by the degree in which it becomes cloudy on standing. If the cloud disappear, or become less on addition of nitric acid, it is wholly or partly composed of earthy phosphates. Acetic acid coagulates mucus into a dense membranous substance, thus affording a means of distinguishing mucus from pus. Under the microscope, mucus particles closely resemble pus particles, but the fluid in which the pus particles float is coagulable by heat, while the fluid of mucus particles is not so affected.

On the detection of urea we quote the following passage from our author:—

"Urea, in consequence of its combining with acids like a weak base, can be very readily discovered in urine. The nitric or oxalic acids may be used for its detection; the former being the most convenient for clinical observations. For this purpose let about a dram of urine be placed in a watch-glass, and about half that quantity of colourless nitric acid be carefully added. If a normal proportion of urea exist, no change except a darkening in tint and the evolution of a few bubbles will be observed, unless the weather be exceedingly cold, or the glass be placed in a freezing mixture, and then a delicate plumose crystallization of nitrate of urea will commence at the edges of the fluid. Under ordinary circumstances, however, no crystals will appear, unless the urine be concentrated by previous evaporation. In some cases, indeed, an excess of urea exists, and then a rapid formation of crystals of nitrate of urea occurs, occasionally so copiously that the mixture becomes nearly solid. It is important, whenever this is the case, to measure and ascertain the specific gravity of the whole quantity of urine passed by the patient in twenty-four hours; for unless this equals or exceeds the average proportion of health, there is no proof that an actual excess of urea is excreted by the kidneys. A particular specimen of urine may appear richer in urea than natural, simply from the diminished amount of water present. On this account, the urine secreted shortly after a full meal, especially of animal food, as well as that voided after excessive perspiration, generally crystallizes on the addition of nitric acid."

These directions are hardly explicit enough for men engaged in practice, and less habituated to chemical details, especially as the urine they will seek to operate on may be, in many respects, different from that of health. The evaporation should be performed by a water-bath, or vapour-bath, or even with a diminished gas flame. If the proportion of water be great, as in diuresis, to avoid the unpleasant smell, it may be done in a retort, the beak of which is introduced into a large vessel of cold water. After evaporation to the consistence of syrup, it should be filtered; and when quite cold, should be mixed with its own volume of nitric acid, quite free from nitrous acid, while the vessel is placed in cold water, or in a freezing mixture to keep the fluid cool. If the mass which forms be thrown on a porous brick or tile, distinct crystals of nitrate of urea, easily recognised, will generally appear; or the impure crystals may be first washed with dilute nitric acid and strongly pressed between folds of bibulous paper before being placed on the tile. If they are then dissolved in warm water, and freed from colour by recently prepared charcoal, perfect crystals will be obtained by evaporation, and in one's first trials this trouble is well bestowed.

Uric acid hardly requires tests. Solution of pure potass dissolves it, and nitric gives it a fine pink colour.

The deposit of earthy phosphates is recognised by their property of dissolving on the addition of nitric acid. The precipitate thrown down on the addition of nitrate of baryta, or acetate of lead, contains the acid of all the phosphates, as well as that of the sulphates; the proportion of that precipitate made to disappear on the addition of nitric acid, shows the relative proportion of the phosphates as compared with the sulphates.

The alkalinity of urine is sufficiently indicated by the ammoniacal smell, and by the brown colour it gives to turmeric paper, whereas healthy urine is uniformly acid to test-paper.

On the detecting of albumen in urine we cannot dwell—heat and nitric acid coagulate this substance. Our author's account is good. His account

of the modes of ascertaining the presence of sugar in urine is also well worthy of attention.

Dr Bird is, as might be anticipated, very full on the detection of oxalate of lime. We can find space but for a part of this highly interesting part of his work :—

“ To examine urine for the purpose of detecting the existence of the salt under consideration, allow a portion passed a few hours after a meal to repose in a glass vessel ; if this be done in winter, or during the prevalence of frequent and rapid alternations of temperature, a more or less dense deposit of urate of ammonia will generally make its appearance, arising either from the sudden cooling of the urine, or from interference with the functions of the skin prior to its excretion. In warm weather, however, or when the functions of the skin are tolerably perfect, the urine, albeit it may be loaded with oxalate of lime, may still appear limpid, or, at furthest, its lower layers only be rendered opaque by the deposition of a cloud of vesical mucus. Decant the upper 6-7ths of the urine, pour a portion of the remainder into a watch-glass, and gently warm it over a lamp ; in a few seconds the heat will have rendered the fluid specifically lighter, and induced the deposition of the crystals of oxalate, if any were present : this may be hastened by gently moving the glass, so as to give the fluid a rotatory motion, which will collect the oxalate at the bottom of the capsule. The application of warmth serves also to remove the obscurity arising from the presence of urate of ammonia, which is readily dissolved by exposing urine containing it to a gentle heat. Having allowed the urine to repose for a minute or two, remove the greater portion of the fluid with a pipette, and replace it by distilled water. A white powder, often of a glistening appearance, will now become visible, and this, under a low magnifying power, as by placing the capsule under a microscope furnished with a half-inch object-glass, will be found to consist of crystals of oxalate of lime in beautifully formed transparent octohedra, with sharply defined edges and angles. It sometimes happens that the oxalate is present in the form of exceedingly minute crystals : it then resembles a series of minute cubes, often adhering together like blood-discs : these, however, are readily and distinctly resolved into octohedra under a higher magnifying power. If the crystals be collected and ignited on platinum foil, oxalic acid is decomposed, and carbonate of lime left ; the subsequent addition of dilute nitric acid dissolves the residue with effervescence.”

The remaining substances met with in the urine being of much less frequent occurrence, we omit the modes of detecting them.

*Treatment of Ill Health indicated by Morbid States of the Urine.*—There appear to be instances in which simple diuresis, or mere increased flow of urine, may be advantageously elevated to the rank of a disease. It is a popular remark that drinking cold water may keep up thirst. This singular effect is easily explained when the urinary discharge is increased at the same time. A watery condition of the blood is the proper stimulus to the activity of the kidney. But this activity once set up sometimes continues after the wateriness of the blood has been reduced below its healthy standard—hence arises a deficiency of the other secretions, and among others of that of the mucous membranes on which thirst depends. This then enables us to perceive how, under very slight primary derangements of the system, a tendency to diuresis may begin, which being often augmented by accidental causes, particularly in persons of a nervous temperament, may become habitual to an injurious extent on the rest of the

secretions. The basis of the proper treatment in such cases appears to be the avoiding, as much as possible, the use of water as drink when the stomach is empty, the keeping up the freedom of the other secretions, especially that of the skin, and the restraining the too frequent calls to empty the bladder.

A deficiency of urine, if regarded as a distinct disease at its first commencement and treated accordingly, would probably be still more frequently prevented from causing ulterior mischief. Pure water on the empty stomach is the chief remedy. Malvern water is adapted to such cases. But distilled water taken at a proper temperature will probably have an equal effect.

When the cloud in the urine rises in an unusual degree, the kind of food and drink should be inquired into and properly regulated, if there be reason to believe that any considerable irritation has its source in the nature of these. The tendency of the urine to become ammoniacal within the bladder when much mucus is mixed with it, still farther irritates the membrane, so that an originally slight cause, easily avoided, is sometimes the source of considerable suffering. If no such cause can be detected, the further examination of the state of the urine, or the signs of inflammation as after gonorrhœa, or the presence of a calculus, will lead to the appropriate treatment.

In the two states of urinary disease in which there is a superabundance of urea, namely, one with considerable increase in the quantity of urine, the other with little alteration in the amount of the secretion, Dr Prout strongly advises against what he calls rough treatment, namely, calomel pills, black doses, and saline purgatives. He admits the occasional necessity for mild purgatives. His chief reliance is on opium and gentle tonics. With the bitter tonics liquor potassæ is joined. Both diseases are liable to relapse, but a recourse to the same treatment is generally successful.

Dr Bird's account of the remedies against the superabundance of uric acid is very complete—we regret that we have not room to extract it entire. The remedies he enumerates are the alkalies and their carbonates, the acetates citrates and nitrates of the alkalies, borax, the phosphate of soda, the benzoic and cinnamic acids.

Of the earthy phosphates, nitric and muriatic acids are the proper solvents. But these are but of temporary effect. The superabundance of phosphates in the urine is a constitutional malady of an asthenic character. The treatment requires a particular attention to the diet and regimen as well as to the palliation of irritation. The diet should be light but nutritive. Mercury is hurtful. The saline purgatives are improper. Castor oil, rhubarb, aloes, are the best means of keeping the bowels regular. If calomel become necessary from accidental symptoms, it should be combined with opium. Alkaline remedies are improper. Even hard waters have an unfavourable effect. Sedatives are particularly required, and, besides opium, hyoscyamus and hemlock are often of much benefit. The liquor opii sedativus is one of the best forms of opium in affections of this kind. The muriate of morphia is also excellent. Tonics, and especially the bitter tonics, are of much service. Prout, whom we have chiefly followed in the foregoing account of the treatment in this malady, recommends the decoction of pareira, the decoction of lythrum salicaria, the infusion of alchemilla arvensis, together with iron, quinine, and the like. When there is much sense of uneasiness in the back, opium or belladonna plasters are of service. Dr P. also advises the shower-bath, tepid or cold, and particularly the tepid sea shower-bath.

In alkaline urine the treatment should not lie, as some have recommended, in mere vegetable diet. A nutritious diet answers best, the system being in an asthenic state. The food should consist principally of solids, with a moderate allowance of wine. Sedatives, tonics, and antalkaline remedies are requisite; and the ordinary appliances for the promotion of the general health, country air, exercise, the exhilaration of the mind, and the like, are to be kept constantly in view.

The subject of albuminous urine connected with granular disease of the kidney is too extensive to be entered on in such an article as this; and with regard to albuminous urine without change of density, as it occurs in a variety of diseases, we can merely remark, that, as taught long since by Cruickshank, Wells, and Blackall, its occurrence, for the most part, indicates an antiphlogistic treatment.

On the subject of saccharine urine, we must refer to the special treatises on saccharine diabetes.

The oxalic acid diathesis is the only remaining kind of morbid urine that calls for a few words to complete our purpose.

Dr Prout regards the treatment of this morbid state as closely analogous to that of diabetes. Besides animal diet, he recommends the mineral acids along with sulphate of quinine and sulphate of iron. Dr Bird joins a due proportion of vegetable food to the animal diet. He excludes beer and wine, and rather concedes a little brandy and water. He prefers the nitro-hydrochloric acid to the nitric. He admits small doses of calomel with an aperient bitter mixture, and adds sulphate of zinc to the tonics mentioned by Prout. He also advises the shower-bath. He puts much confidence in colchicum, affirming that it increases the quantity of uric acid in the urine under this malady.

Our readers will perceive, from the use we have made of Dr Bird's work in the above quotations, that there are many parts of it on which we set a high value. And if we cannot extend the same praise to the whole of it, we believe that it is because the work, even though it has been rewritten, still retains rather too much of the loose arrangement and hasty composition which belong to oral productions.

We have marked several errors which bespeak this haste. These, though for the most part unimportant in themselves and easily discoverable, yet shake our confidence in the accuracy of those statements to which we cannot easily apply a decisive test.

At page 39, uric acid occurs instead of nitric acid; at page 12, liver instead of skin. The "*sal microcosmi*" is severely punished wherever it occurs; it is termed the *microscopic* salt, the *microscopic* salt, and worse than either, it is described as the double phosphate of soda or ammonia, as if the name were applicable to either, and not to a salt containing both, the ammonio-phosphate of soda, a name which should supersede the fanciful old name "*sal microcosmi*." Such common mistakes as "*schirrhous pylorus*," and "*schirrhous pylorus*," both on one page, shock us the more because of late years we are less accustomed to meet with them. The prescriptions are written with less care than should be bestowed when given in the technical form: at page 146, *acidum nitricum* and *acidum hydrochloricum* are prescribed in a formula without the epithet *dilutum*, though that is used in other formulæ elsewhere in the work; indeed, throughout the prescriptions containing these acids, "*dilutum*" is introduced or withheld at random.

These, however, are but trifling blemishes, and we take leave of Dr Bird with our best acknowledgments for the instruction we have received on this very important subject from his work.



*Medical History of the Expedition to the Niger during the years 1841-2, comprising an Account of the Fever which led to its abrupt Termination.*  
By JAMES ORMISTON M'WILLIAM, M.D., Surgeon of H. M. S. Albert,  
and Senior Medical Officer of the Expedition. Pp. 287. London, 1843.

It is a singular fact that Africa, though lying so near Europe, though so easily accessible from the shores of the Mediterranean Sea and the ocean, though possessing the most ancient monuments of civilisation—some astonishing us by the magnitude of their colossal proportions, others by the beauty of their sculptured decorations—should still remain the opprobrium of European geography. The tide of enthusiasm by which the first adventurers were borne to the American shores did not ebb till, within fifty years after its first discovery, that continent was explored in all directions. The forests, swamps, and savannahs of the western continent exhaled as pestilential an air, and demanded as great a sacrifice of human life; but at the shrine of Plutus the hecatomb was duly offered, the dangers of climate were disregarded, and the white man settled down in a country where nature had opposed his entrance more obstinately than the Aborigines whom he dispossessed.

The attention of the African speculator has long been directed to the Niger, as Nature's pathway to the centre of Western Africa. Presenting a course which, at the lowest estimate, extends two thousand miles into the interior of the country, and navigable nearly to its source, fed by numerous tributaries whose valleys are represented as luxurious and beautiful in the extreme, its banks inhabited by tribes favourable to European intercourse,—it has often tempted the enterprise of the British merchant, and the daring of the British traveller. Ledyard and Houghton, Park, Horneman, Tuckey, Oudney, Ritchie, Toole, Clapperton, Lander, Laing, Denham, Davidson, all perished in the attempt to explore the interior of the country; and though Park found the Niger "as broad as the Thames at Westminster," and Denham and Clapperton were privileged to behold from a rising ground the "great lake Tchad, glowing with the golden rays of the sun in his strength," yet the results of neither expedition were of much commercial advantage. The geographical history of the Niger is short. Our first notice of it is in Herodotus (*Euterpe*, 32), who tells us of "five young Nasamones who arrived at the banks of a large river flowing from west to east, and containing crocodiles." Beyond this nothing seems to have been known to the ancient Greek and Roman geographers, and to remove this ignorance was the object of the journeys of Park. In his first journey he reached Sego, and found a river flowing to the eastward; but he perished in his attempt to discover its termination. The honour of this was reserved for the Landers, one of whom had accompanied Clapperton as his servant, and who, after solving this geographical problem, perished in a skirmish with the natives. British energy and British enterprise are proverbially indomitable; and while Sir T. F. Buxton, the African Society, and the government of the country, were proposing to spend £65,000 in an expedition to *prepare the way* for British commerce, they were startled by the information of a Liverpool merchant, that in 1839, 14,126 tons of palm-oil, besides ivory and other commodities to a large amount, were imported to Liverpool from the western coast of Africa; and that of this quantity, three-fourths at least, value £350,000, were produced and manufactured on the Niger, and shipped from its delta, and that this gave

employment to from 12,000 to 15,000 tons of shipping from Liverpool alone.\*

Mr Jamieson warned the public against the issue of the proposed expedition, showed how it would be fatal to private speculation, and unsuccessful in the object it had in view—the extinction of the slave-trade. The influence of Sir J. F. Buxton, however, prevailed; and, to quote Dr M'William's succinct summary of its disastrous issue, "the expedition left England on the 12th of May 1841, and entered the Niger on the 13th of August. Three weeks from this period fever broke out among the crews, and soon produced effects so disastrous that two of the three steam-vessels composing the expedition were obliged to return to the sea, and the other was compelled to follow a few weeks after." And yet all that art could do was put in force to secure the safety of the crews. "The vessels were each divided by water-tight bulk-heads (partitions) into five compartments. The accommodation for the officers was good; and the lower deck, which was exclusively allotted to the ship's company, was proportionally larger than in other vessels of the royal navy.

"A ventilating apparatus was fitted up in each of the ships, under the superintendence of Dr Reid, by means of which a constant supply of fresh air could be kept up between decks; or the external atmosphere, by being passed through a large iron chamber on the upper deck, might be submitted to the action of chemical and other purifying agents previous to its diffusion below.

"The provisions were of excellent quality, including, in addition to those usually supplied to vessels of war, preserved meats and vegetables of various kinds, pickled cabbage, cranberries, wines, beer, and spruce. In short, whatever was considered necessary to conduce to the health and comfort of the crews, was most liberally provided by the government."

The following statistical summary shows us the prevalence and mortality of the fever:—

Statistical Summary.	Albert, &c.	Wilberforce.	Soudan.	Total.
Total number of Whites . . .	62	56	27	145
Cases of Fever among ditto . . .	55	48	27	130
Deaths among ditto . . . .	23	7	10	40
Number of Blacks . . . . .	91	46	21	158
Cases of Fever . . . . .	6	3	2	11

The expedition entered the Niger on the 13th of August, three months after leaving England. A few cases of fever occurred at the delta among the blacks, who had been much fatigued by the collecting of fuel. Iddale was reached on the 2d of September. "Up to this time," says Dr M'William, "the expedition had been fortunate beyond all expectation. The delta had been passed, and we were entering the valley of the Niger under circumstances seemingly the most auspicious. The crews were in the best possible condition, and with a general buoyancy of feeling looked forward to the period when the vessels were to ascend the river; while they contemplated with delight the novel and diversified scenery of the high land before them. With such prospects, so favourable beyond all anticipation, it is not to be wondered if we indulged a rather sanguine

\* See an Appeal to the Government and People of Great Britain against the proposed Niger Expedition, by Robert Jamieson, Esq.

hope that the continuance of health would be granted to us, and that we should, under Providence, thus be enabled to persevere in the great object of our mission. But it was otherwise ordained." On the 4th a fever of a malignant character broke out in all the vessels, and abated not till the whole expedition was completely paralyzed. On arriving at the confluence of the Niger and Tohadda on the 17th, there were sixty-nine cases of fever in the three vessels—the *Amelia* having been left at the model farm. It was recommended to transfer the sick into one vessel, and send them down into Fernando Po. Accordingly on the 19th the *Soudan* descended the river with forty cases of fever on board. Two days afterwards, the increase and severity of the fever compelled the Wilberforce to follow her; and the *Albert*, with her complement of men and officers sadly reduced, attempted to reach Rabba alone. Each day added to the number of the sick, and Captain Trotter, the commander of the expedition, was attacked on the 3d of October. Under such circumstances it would have been madness to proceed, as there remained on board, "capable of doing any duty, only one white seaman, the sergeant, and one private of marines, Dr Stanger, Mr Willie, mate, John Huxley, hospital-attendant, and myself. Mr Willie was already labouring under incipient fever, and could not be persuaded, even when very ill two days afterwards, to keep quiet. The season was advancing, and the river had already begun to fall." Accordingly, on the 4th of October, the ill-fated expedition was abandoned, and the *Albert* followed her consorts down the stream.

We question whether the records even of African adventure contain any thing more truly touching and heroic than the energy displayed on this occasion by the author and his companion Dr Stanger, the geologist of the expedition. Their friends and companions were stricken down by the fearful disease. It was absolutely essential for them to escape from the pestilential influences by which they were surrounded; but officers, engineers, and crew, were alike incapacitated for exertion, and, under the paralyzing influence of the dread disease, listlessly awaited what now seemed their certain fate. It is with pleasure we record, that in this trying season the energy and presence of mind of the British surgeon did not desert him. While Dr M'William, with only one white man, and he a convalescent, to assist him, steered the vessel, Dr Stanger undertook the management of the engines at a time when the whole additional press of duty as medical officers devolved upon them. Fortunately, when about a hundred miles from the sea, Captain Becroft appeared in the *Ethiopia* steamer, and transferring himself and an engineer to the *Albert*, steered her to Fernando Po, where they arrived on the 17th of October. Here Dr M'William himself was attacked, and after suffering severely for three weeks, began slowly to recover.

Amidst such incessant and toilsome employments, we regard the keeping of a regular journal, and the minute report of the fever cases, as highly creditable to Dr M'William.

The account given of the fever does not differ materially from that which previous observers have described as occurring in these latitudes. Dyspnoea and headache were the chief symptoms of the early stage. Severe sweating, the perspiration of a most disagreeable odour, was much complained of. The paroxysms did not observe any law of periodicity. In very few instances were the remissions complete. Local pain, with the exception of headache, was seldom complained of. Delirium was always an unfavourable symptom. Of 21 cases in which it occurred, 14 died. Petechiæ were not observed in any case. "In two cases which proved fatal

on the seventh day, livid blotches appeared on the feet and hands, and gradually extended to the chest and abdomen.—In three of the fatal cases on board the *Albert*, the muscles of the pharynx and larynx were convulsively affected, preventing or much impeding deglutition. In two others, also fatal, the spasms were confined to the muscles of the abdomen and limbs. In one case paralysis of both arms supervened during the early period of the disease. Partial paralysis of the right arm occurred in Dr M'William's case four months after convalescence from the fever had been going on, and lasted about six weeks. One man on board the *Wilberforce* was placed on the list for paralysis in November, after having had fever in the Niger. In no case was there the slightest appearance of 'black vomit.' Bilious vomiting was common in the early stage of the disease; and the attendant retching was very troublesome." Post-mortem examinations took place in eight cases. The only morbid appearances that were constant were ulcerations of the gastro-enteric mucous membrane. With regard to the sequelæ of the fever, they chiefly consisted in affections of the abdominal viscera. Colic is a very common sequence of this fever. "Indeed, it may be safely asserted that few convalescents from fever will escape an attack of colic unless extreme caution be used. Diarrhœa and dysentery are also frequent among those who have suffered from African fever, and further evince the morbid susceptibility of the bowels induced by that disease; this was remarked in the former expedition up the Niger. Of those in the *Albert* who had fever in the Niger and who did not at once leave the coast, few escaped bowel complaints, which often assumed the form of dysentery. Hepatic disease not unfrequently occurred as a result of these affections of the gastro-enteric lining." Intermittent fever almost universally followed at longer or shorter intervals. "On board the *Albert* none of those who had fever in the Niger and were not at once sent to England, escaped intermittent. Five who suffered severely were invalided at Ascension nearly nine months after the vessel left the Niger."

Dr M'William devotes a chapter to the consideration of the causes of the fever, in which, with every desire to observe something definite and accurate, and with every means of doing so at his disposal, he seems, like previous observers, to have been foiled. It had been ascertained by Professor Daniel that water brought home from the rivers of the west coast of Africa contained a notable proportion of sulphuretted hydrogen gas, and the learned professor was of opinion "that there was a very probable connexion between such an evolution and the notorious unhealthiness of the coast of Africa." From repeated experiments, Dr M'William ascertained that in the water, when fresh, no sulphuretted hydrogen was found; but when kept for some time partially excluded from the air, its presence can be detected by the usual tests.\*

A very interesting chapter is devoted to the state of medicine among the tribes on the banks of the Niger. Circumcision seems a large source of professional emolument. "At Egga I was informed that a sheep, a goat, and several thousand cowries were not unfrequently the 'fee' for one operation of this kind." The coolness of the Mallams under surgical operations might afford a lesson to many in our own country. "One of their boys had cataract of the right eye, which I had no sooner offered to remove than he sat down and submitted without murmur to the operation of depression;

\* These observations are confirmed by those of Dr Pritchett, surgeon to the *Wilberforce*, in his account of the African fever. The best digest of the arguments on the other side is to be found in a paper by Professor Gardner in the *American Journal of Medical Science* for April 1843.

he was astonished at being able to count his fingers with an eye which had previously been of no use, and after it was bandaged up, he walked coolly into the canoe as if nothing had happened." A primitive mode of cupping is fashionable. "In the river Congo or Zaire, the native doctors scarify in fevers and in many local affections. When the incisions or punctures are made, a large horn with a niche cut in its side is applied over them, and the operator exhausts the air by applying his mouth to the opening, and thus forms a tolerable substitute for the cupping-glass." Dr M'William had taken a large supply of vaccine lymph from England, and found the natives very willing to submit to the operation. Among them the disease assumed a more decided form; "the eruption was preceded by severe headache, pain of back and loins, and general fever, which did not disappear for several days. The eruption in several cases was dispersed over the neck, chest, and abdomen, and the bases of the vesicles were in general much inflamed. All of them were confined to bed for some days, and several required rather active treatment."

We take leave of the talented author of this interesting volume not without some regret. The interest which this expedition to the Niger excited was at one time great; but although much of the general information which Dr M'William's work contains had been previously before the public, yet as a continuous and authentic narrative it possesses no small claims on our attention. To the medical man such narratives are of the highest importance. It is only by the minute examination of competent persons, and by detailed histories such as this book gives us, that the causes of these fearful endemic diseases will at length be discovered, and adequate means of prevention adopted.

It is no wonder if, with the fearful impression of the horrors he had witnessed and undergone, Dr M'William should express too desponding a view of the prospect of African colonization. Mr Beecroft, whose assistance was so valuable to the expedition, ascended the Niger in 1835, and remaining in it three months, returned to Fernando Po with the loss of only one man. His expedition was the result of private enterprise, and he ascended the river at a fitting period of the year. When we reflect upon the mortality which once attended voyages of any length, and on the formerly dreaded insalubrity of the East Indies and still more of the West,—when we consider that the Portuguese colonies in Africa, once looked upon as the certain graves of all who visited them, have since lost to a great degree their reputed terrors, we feel sure that even the dreaded horrors of the Niger will cease to be an obstacle to the progress of British enterprise, and that before long we shall hear of the successful and complete exploration of that river whose waters wash the graves of so many of our adventurous countrymen. Should our prediction be fulfilled, and such expeditions fitted out, we can only wish that they may secure the services of medical officers as able and indefatigable as Dr M'William.

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## PART III.—PERISCOPE.

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### SURGERY.

*On the Radical Cure of Varicocele.* By M. A. VIDAL (di Cassis).

In the last number of the *Annales de la Chirurgie*, M. Vidal gives an account of a new operation for the cure of varicocele "par l'enroulement des veins."

du cordon spermatique." The title will be best explained by the description of the operation. He has already operated in nearly twenty cases with success. Part of his paper is devoted to remarks on the pathology of the disease, and likewise to an enumeration of the arguments which appear to him to indicate the necessity of attempting the radical cure of the disease. We shall not follow him through this part of his paper, but simply describe the operation proposed by him, and refer those who wish for farther details to the memoir itself.

His operation is a modification of that proposed by Reynaud. The instruments required are two strong spear-pointed needles, having silver wires of about the thickness of a large pin attached by means of a screw. The surgeon separates the varicose vessels from the vas deferens by means of the forefinger and thumb of the left hand. The needle is then passed between the veins and the vas deferens, carrying along with it the silver wire, about an inch or less of the scrotal integuments being thus contained between the two punctures through which the needle is passed. Another, or the same needle armed with another wire, is then passed through the same openings anterior to the vessels, which are thus contained between the two. The wires are then twisted. By this the veins are compressed, and, by continuing the twisting, the veins are rolled around the wires as a thread is around a quill, the testicle being thus drawn somewhat upwards. A small roll of bandage is then placed over the integuments between the points of entrance and exit of the wires, which are then fixed over this roll by twisting them together. A small sound is then passed between the wires and the bandage, so as to act as a turnstick. We have thus—1st, Compression of the veins between the two wires; 2d, Rolling up of the vessels upon them; and 3d, As a consequence of this, division of the veins at different points according to the number of turns which they make around the wire. He recommends that the wires should be allowed to divide the skin, as by that means the superficial veins will be divided, and less risk of a relapse be incurred.

We believe that this operation has not been repeated in this country, but the results given by M. Vidal, both as regards the little danger attending it, and the ultimate success, are sufficiently encouraging.

The observation of M. Vidal in regard to the moral influence of varicocele, we consider worth recording. The injurious effects of this as well as other diseases affecting the sexual organs upon the mind, are well known to all surgeons, and have generally been ascribed to the patient constantly brooding over the malady under which he labours. M. Vidal, however, refers to two cases in which the individuals were a prey to melancholic and other mental affections, they being at the time ignorant that any sexual derangement existed. One of the cases occurred in the person of a distinguished artist, and the operation was productive of the very best effects, the mental depression being completely dissipated by it.—*Annales de la Chirurgie*, October 1844.

*Bronchotomy and Tracheotomy in the Treatment of Croup.* By M. JOUSSET.

In an analysis of the paper of M. Jousset, contained in the *Archives Générales de Médecine*, the *Gazette Médicale* for November 9, 1844, gives the following as the conclusions to which that author has come in the treatment of croup.

"When called in at the commencement of the disease, the practitioner ought to apply leeches on the fore-part of the neck in sufficient quantity to

induce fainting (*état lipothymique*) ; to cause the patient to vomit immediately ; and, lastly, to cauterize the extremity of the pharynx and the neighbouring parts of the glottis with a concentrated solution of the nitrate of silver, so as to prevent the extension of the false membrane, or to modify the inflammation which produces it, if this false membrane already extends into the larynx. In commencing this treatment, it is necessary to apply two large blisters to the thighs.

When the fits of suffocation begin to appear, it becomes necessary to follow with great care the progress of the disease, and the effects of the treatment employed.

If the fits of suffocation, after having during a certain period augmented in intensity, either remain stationary or diminish, tracheotomy will in no ways be indicated ; but on the other hand, if the fits of suffocation increase, at the same time that they are longer and more intense, if the most energetic treatment does not modify them, if the strength fails and the asphyxia becomes imminent, then we must not hesitate any longer to open the trachea ; it is the only means which can retard death, and even in some cases bring about a complete cure.

Therefore it is necessary to perform tracheotomy when the fits of suffocation, increasing in an incessant manner, are not at all modified by the treatment and threaten a speedy death, and in this case only."

#### PATHOLOGY AND PRACTICE OF MEDICINE.

*On Pulsation of the Veins on the Dorsal Aspect of the Hand in some Acute Diseases.* By M. MARTIN SOLON.

(*Abridged from the Bulletin de l'Académie Royale de Médecine.*)

M. SOLON commences the paper by showing that the name of venous pulse is usually applied to that reflux of blood which occasionally takes place in the jugular veins ; and explains that this proceeds from causes very different from those which give rise to that very clear and evident pulsation of the dorsal veins of the hand which it is the object of the paper to describe.

This the author regards as nothing else but an isochronous continuation of the pulse in the radial and cubital arteries, which therefore merits the name of venous pulsation rather than the more common regurgitation in the jugulars to which it is usually applied.

The first patient in whom M. Solon observed this phenomenon was a young man of twenty-three years of age attacked with double pneumonia. He was bled several times, and in the first week of the disease nine pounds of blood were abstracted. After this he had profuse epistaxis. He was pale and faint, and the disease was yielding, when on the fifteenth day of the disease a distinct pulsation was observed in the veins on the back of the hand.

The pulsation was as strong as that in the radial artery, where it is most superficial. It was isochronous with that of the pulse ; it ceased when the veins were compressed on the side towards the fingers, but was persistent when pressure was made at the wrist. Compression of the brachial trunk at once stopped the pulsations in the radial and cubital arteries, and in the dorsal veins of the hand. Attentive examination made it obvious that the pulsation in the veins was not communicated from the arteries, nor produced by muscular contractions nor spasms of the tendons.

Except in the energy of its contraction, the action of the heart was natural, and the non-isochronous reflux occasionally existing in the jugulars

was evidently caused by the activity of the venous circulation, and the repletion of the right auricle.

The pulsation lasted in this case for seven days.

The second case in which M. Solon observed venous pulsation was in a young man of eighteen who had been bled frequently for pneumonia of the left lung.

The author is of opinion that the phenomenon is produced by the blood being rendered very fluid, while the action of the heart is augmented, and that thus the vital fluid, being quickly propelled through the capillaries, never lost the impulse originally communicated to it by the heart.

The same pulsation was observed by Dr Ward in the case of a female recently delivered, who had been largely bled for pneumonia; and Dr Graves has recorded two cases, in the one the patient was affected with pneumonia, in the other with peritonitis, for both which affections large bleedings had been practised.

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*On Pain of the Loins.* By Dr OKE, Southampton.

PERHAPS there is no symptom more commonly met with in practice than pain in the loins, which is usually and at once attributed to bile, gravel, or rheumatism; but as it may be also derived from other causes left out in a hasty decision, I shall enumerate them, and endeavour to point out the symptoms by which each may be distinguished.

Pain of the loins may be derived from the muscles, from the liver, from the duodenum, from the kidneys, from the colon, from the uterus, from the aorta, from the spine, or from matter collected on the psoas muscle, independent of spinal disease.

In order to arrive at its true cause, we must endeavour to ascertain what function is principally involved, which will at once lead us to it.

*If the pain be rheumatic,* it will be increased by pressure, and by the slightest action of the muscle affected. There will probably be also rheumatism in other parts of the body, the system will not evince much disorder, the urine will be high coloured, and deposit a lateritious sediment.

*If derived from the hepatic function,* the pain will shoot upwards along the splanchnic nerves to the scapulæ; the alvine evacuations will be either deficient in or exuberant with bile, or show a morbid quantity of that secretion; the urine will have a bilious tinge; there may be congestion of the hemorrhoidal veins, and the spirits will be depressed.

*If from the duodenal function,* three or four hours after a meal the pain will aggravated, shooting through towards the right side of the abdomen, and remaining till the food has passed into the jejunum. Dyspeptic symptoms will prevail, and there will frequently be painful pustules breaking out about the face. I have lately met with a case in which the boils were extremely annoying.

*If from the kidneys,* the pain will shoot down the course of the spermatic nerves towards the round ligament in the female, and towards the testis in the male, which will often be retracted by the action of the spermatic nerves upon the cremaster muscle. There will be more or less irritation communicated to the mucous membrane of the bladder. The urine also will be diagnostic in this instance; it may deposit mucus, calculus matter, blood, pus, or albumen, according to the nature of the case; or it may be otherwise morbid in its constitution.



*If from the uterus*, the pain of the back will arise from disordered function or disease of that organ. In the former case the pain will be of a neuralgic character, will return in forcing paroxysms extending around the hips and hypogastric region, will be attended with hysteria, and often with increased quantity of the menstrual discharge. In the latter case the pain will be *constant* and severe, extending along the anterior crural nerve half way down the thighs. There will be a thin, offensive discharge from the vagina. The countenance will be wan and sallow, exhibiting the wear and tear of organic lesion.

*If from the colon*, there will be constipation, and inflation in the course of the bowel, or the fæcal discharges will be of small diameter, or there will be soreness of the intestine under pressure, especially at its ascending or descending portions, accompanied by mucus, or shreds of lymph in the form of boiled vermicelli, amongst the excretions.

*If from arterial dilatation*, an abnormal pulsation involved—the aorta for instance—may possibly be detected by auscultation in the incipient stage of the disease, *if such were suspected*; but in a large majority of cases, such a cause may reasonably escape the attention of the ablest surgeon, from there being no tangible symptom that might lead him to suspect it; and even after the dilatation has considerably advanced, it may be sufficiently large to press upon and disturb the spermatic nerves, but not large enough to project and pulsate externally, and this may, at this stage, be confounded with diseases of the renal function. A few years ago I met with a case of this kind in a man of middle age. The pain had been constant and wearing, shooting from the loins down the course of the spermatic nerves, and for a considerable time was reasonably attributed to the renal function, especially as there had been constant disturbance of this function. At length the aneurismal sac began to approach the surface, and then of course the cause became apparent.

*If from disease of the spinal column*, the pain will be aggravated by percutting the spinous processes at this part of the spine, or by suddenly striking the toes against an uneven surface. There will be involuntary action of the muscles, especially of the flexors of the legs, diminished temperature, abnormal feelings, and more or less loss of power of the lower limbs. Should there be at the same time any unnatural projection of the spinous processes, the disease will be confirmed.

*If from a collection of matter upon the psoas muscle, unconnected with spinal disease*, the pain will be continued, dull and deep-seated, extending from the loins down the psoæ, or in whatever direction the matter may have taken its course. The pain will be aggravated by flexing the thigh towards the abdomen, and there will be difficulty in walking; moreover, there will be marks of a strumous habit, and more or less symptoms of hectic fever. Should any fluctuating tumour present at the groin, or at any other point where the matter may find its way out of the body, it will be conclusive as to the nature of the case.—*Provincial Medical Journal*.

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*On a new Remedy for Psoriasis.* By JOSHUA WADDINGTON, Esq.,  
Consulting Surgeon to the Royal Sea-bathing Infirmary, Ramsgate.

DR WADDINGTON states that, in the treatment of psoriasis diffusa, the best application is cocoa-nut oil diluted with equal portions of the unguentum cetacei. The affected parts should be washed night and morning with tepid rain-water, then made quite dry, and the ointment applied lightly (with a camel's hair brush); over this oiled silk should constantly be worn.

According to Dr Waddington, the best internal remedies are gr. x. of Plummer's pill each night at bed-time, with gtt. xx. of liquor potassæ three times a-day.

Regimen should be carefully attended to: salted meat, shellfish, fermented liquors should be strictly forbidden. Fruit and vegetables should be used as sparingly as possible.—*Lancet*.

[In the Second Number of this Journal, page 131, we ventured to recommend the following lotion in psoriasis, and farther experience has increased our confidence in it:—

R. Creasoti gtt. xx.  
Ac. hydrocyan. med. 3j.  
Aq. distillat. 3xii.

M. ft. lotio.

A case is recorded (Journal Hebdom. vol. i. p. 259) where psoriasis inveterata of fifteen years' standing was cured at the Hospital of St Louis in twenty-six days by means of Fowler's arsenical solution.

M. Bielt has found the Asiatic pill very successful in some obstinate cases. Its composition is as follows:—

R. Arsenici protoxidi gr. j.  
Pip. nig. gr. xii.  
Pulv. acac. gr. ii.  
Aq. distill. q. s. Divide in pil. xii. vel xvi.

Dr Burgess states that, in psoriasis palmaris, after soothing the diseased parts with local baths of the decoction of bran, &c., the parts should be gently stimulated with the ioduret of mercury ointment, which produces the happiest results.]

#### *On Relaxation of the Rectum.* By Dr HUNT.

At the meeting of the London Medico-Chirurgical Society, on November 26, a paper on the above subject was read by Dr Henry Hunt.

"The most prominent symptoms are obstinate constipation, a frequent desire to evacuate the bowels, a constant sensation of load in the rectum, which is not relieved by an evacuation, and the discharge, after much forcing of mucus, tinged with blood.

The bladder, urethra, and adjacent organs, often participate in the irritation.

On examination, the rectum will be found preternaturally enlarged, and more or less filled with large folds of mucous membrane pressing down on the anus, which impede the evacuation of feces—introduction of instruments and injection of enemata.

The disease is liable to give rise to prolapsus ani, an irritable and painful state of the sphincter, and an intussusception of the upper and undilated bowel into the lower and dilated.

The author recommended for the treatment the injection of a pint of cold water into the rectum every night before going to bed, with the avoidance of purgatives. Irritable sphincter is to be relieved by belladonna ointment. In cases of intussusception, the exhibition of some aperient, to keep the bowels open without purging, and a course of hydrarg. cum creta, with hyoscyamus or conium, or the iodide of potash and sarsaparilla.

In the discussion that followed, Dr James Johnson objected to the enema, and recommended some mild purgative, as the tartrate of potash or confection of senna. He had found Ward's paste corrugate the folds and give a tone to the parts.

[In cases of constipation from relaxation, aloes in combination with sulphate of quinine was a favourite prescription of Dr Abercrombie, and often succeeds remarkably well, especially in persons advanced in life.

In cases of great dilatation, might not injections of nitrate of silver be of service, administered as recommended by Trousseau in the diarrhoea of children? (See Northern Journal of Medicine, vol. i. p. 347.) It has a great effect in producing contraction of the calibre of the vagina.

In the habitual constipation which so often produces this affection, Dr Graves, after objecting strongly to the use of mercurial purgatives, recommends the following combination :—

R. Electuarii sennæ ℥ii.  
Pulv. supertart. potass. ℥ss.  
Carb. ferri ℥ii.  
Syrupi zingib. q. s.—Ft. electuarium.

The dose must be regulated by its effects, but in general a small tea-spoonful in the middle of the day and at bed-time will be sufficient.

Dr Graves says, that the value of carbonate of iron as a tonic aperient has not been appreciated.]

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*Immense Accumulation of Indurated Faeces in the Rectum, and Complete Suppression of the Alvine Evacuations for a Month.* By EDWARD HOCKEN, M.D.

THIS case was read at the London Medico-Chirurgical Society, November 26. We can only afford space for an outline of it.

The patient, three months before, while nursing, fell over a tray, by which her legs were violently separated; this was followed by pain, menorrhagia, constipation, faeces being passed in indurated lumps with difficulty. For about a month before the date of Dr Hocken's visit there had been no passage from the bowels.

She was first seen June 10; was emaciated and exhausted, pulse 136, feeble; severe pain in rectum and lower part of belly, the latter distended, firm, and intolerant of pressure; injections, which had been freely used, came away only slightly tinged; food and drink rejected by vomiting: offensive discharge from vagina; efforts to go to stool from purgatives occasioned frightful agony, and eversion of mucous membrane.

Rectum blocked up and enormously distended by indurated faeces to within an inch of the anus, bulging into and nearly obliterating the vagina.

The indurated faeces were broken down and removed by means of a lithotomy scoop; castor-oil in half-ounce doses, with five drops of liq. opii sedativ., was exhibited every three hours, and simple enemata with olive-oil every four hours. The bowels acted well in three days, but acute inflammation of the vagina came on, for which she was removed to the Middlesex Hospital.

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*On a New Criterion for determining the Necessity of Blood-letting.*

By M. POLLI.

M. POLLI has proposed, in the *Annali Universali di Medicina*, to study the greater or less rapidity with which the blood of different venesections, or even of the same venesection at different stages, coagulates, in order to decide on the necessity of continuing or repeating the bleeding.

If the coagulation takes place slowly, we may continue the bleeding with confidence. If, on the other hand, the coagulation forms instant-

neously, it is time to bind up the arm, and this second precept is of more importance than the first, inasmuch as if it be dangerous to abstain from bleeding when demanded in an acute disease, it is still more dangerous in some cases to employ it when contra-indicated.

It must be clearly understood, as M. Polli has remarked, that the coagulation must be taken in connexion with the rapidity with which the blood flows.

Finally, the inductions to be drawn from the presence or absence of the clot, are identical with those which are furnished by the rapidity of the coagulation; since, according to M. Polli, the formation of the clot is in exact proportion to the slowness with which the blood coagulates.

These two signs, therefore, have the same origin and the same signification.

These views, confirmatory of those of Andral, are supported by a series of experiments, by which the author has proved, that in inflammatory affections the more blood that is drawn the faster it coagulates.—*Gazette Médicale*.

["It is difficult to say," observes Dr Marshall Hall, "whether more injury has been done by an undue or by an inefficient use of the lancet," and it is certainly exceedingly desirable to obtain some test by which to determine the cases in which blood should be taken, and the extent to which it may be carried. We are not sure that the proposal of M. Polli supplies this desideratum. All that can be gathered from his test is afforded by observation of the relative proportion of the serum and crassamentum.

If it is to be applied at all, the following cautions ought to be attended to:—

1. The vessels in which the blood is collected should be of the same shape.
2. The temperature of the vessels should be as nearly as possible the same.
3. The aperture in the vein in each case should be as nearly as possible of the same size.

It is well known that in all cases where the fibrine is abundant, the coagulation of the blood is slow.

An excess of fibrine as well as of the lymph-globules exists in inflammatory diseases.

In some cases Andral and Gavarret found it as high as ten per thousand.

But it may somewhat diminish our confidence in the test of M. Polli to find that the same authors have found an excess of fibrine in tuberculous diseases.]

## MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

### *A New Remedy for Uterine Hemorrhage.*

In the *Provincial Medical and Surgical Journal* for October 18, 1844, Dr Radford, consulting physician to the Lying-in Hospital, Manchester, recommends galvanism in extreme cases of uterine hemorrhage. Under such circumstances Dr R. considers the extraction of the fœtus, though sanctioned by some of the first authorities in midwifery, a dangerous practice; and he accordingly disapproves of its emancipation until the uterus can be roused from its state of depression, and its contractions re-excited, by which alone the further effusion of blood can be arrested. We are recommended to transmit slight shocks through the long axis of the uterus by means of a conductor introduced along the vagina to the *os tincæ*, while another is applied externally over the fundus of the organ. There are few of our brethren who have not occasionally had cause, under these appalling circumstances, to deplore the insufficiency of

all stimuli and other measures ; and whether the application of this new and powerful agent may be more successful than the most active of those on which we have hitherto been accustomed to rely, remains to be determined ; but as it is brought under the notice of the profession by so high an authority, we consider it the duty of those engaged in midwifery practice to embrace the first opportunity of giving it a fair trial in formidable cases, and to communicate the result of their experience to the professional public. That the agent in question may be the means of speedily rescuing the parent while in imminent danger, is more than probable ; but how far, in profuse flooding, it may benefit the foetus is extremely questionable, since in such cases it is generally still-born.

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*Four at a Birth.*

A WOMAN in Galicia, the wife of a peasant, produced four male children at a birth. Neither in her own family nor in that of her husband had a plural birth ever happened ; she was æt. thirty-five, of strong-built frame, and sanguine temperament ; she had menstruated regularly from her twenty-second year, and was married to her present husband at twenty-four æt., between which period and her thirty-fifth year she had produced three boys and one girl. The husband was thirty-six æt., emaciated, and cachectic. In the beginning of December she felt herself pregnant ; at the commencement of April she perceived the first foetal movement, and on the 19th August labour pains supervened. The children all presented the feet, and were born at intervals of half hours, the fourth excepted, which was born a quarter of an hour after the third, and was in a state of suspended animation. In each amniotic sac were about two pounds of liquor amnii, each placenta weighed about three quarters of a pound, and each foetus between three and four pounds, and varied in length from fifteen to seventeen inches. The mother recovered perfectly in five days. All the children died within six days from their birth—two from some unknown cause, and the remaining two from neglect.—*Oesterr Med. Wochensh.*, No. 7, 1844. Let our readers compare this case with M. Moreau's theory of "The Causes which determine the Sex in Generation," contained in our November Number, p. 60.

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*The Rigocephalus, a New Apparatus for applying Cold to the Heads of Children.*

By Dr BLATIN.

THE *Rigocephalus* consists of a metal ring intended to surround the head. The ring does not form a complete tube, but has the shape of a bisected cylinder, fitted to the head like a tiara ; bladders are attached to its edges in such a way as to form a double covering for the head, having a space between the layers, with which an anterior and a posterior opening in the ring communicate, flexible tubes being attached to conduct and carry away the water ; in this way a stream of cold water constantly renewed may perpetually flow over and around the head.—*Journal für Kinderkrankh.*, *bd.* ii. *hft.* 2.

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*Treatment of Cephalæmatoma.*

M. CHABRELY has used with success, in cases of the above named affection, a powder which he terms the *poudre d'amidon camphrée* composed of four parts of camphor and forty of rye-flour. This he sprinkles over the swelling, covering it with a thin layer of cotton wadding, and in the course of

fifteen days the tumour disappears. M. C. was induced to try this in consequence of the bad effects resulting in some cases from the cold produced by the application of evaporating and discutient lotions.—*Clinique des Hôpitaux des Enfants*.

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*Induction of Premature Labour by Means of the Tampon.* By Dr FELDMANN.

A WOMAN, ætat. twenty-seven, applied to Dr F. for his advice. She had been three times previously delivered by the crotchet, and at the time of her application was in the twenty-ninth week of her fourth pregnancy. On examination *per vaginam* he found the pelvis of the rachitic form, the conjugate diameter of the brim considerably under three inches, and the os uteri so open as easily to receive the point of the little finger. On the 19th of January, a well oiled tampon, composed of charpie, and of the size of a hen's egg, was introduced, the vagina also being plugged with oiled charpie. On the 21st, the tampon was withdrawn, the os uteri was now sufficiently dilated to receive two fingers, and a second tampon was introduced, the point being inserted into the os uteri, and the vagina plugged as before. In an hour and a half, uterine contractions were felt, which continued to increase till the following morning, when at half-past six the tampon was removed; the os uteri was found as large as a crown-piece, and a hand felt presenting; at midnight the os uteri being fully dilated, the membranes were ruptured, and fœtus extracted with considerable difficulty; but before the head was born the child had died.—*Medizin Zeitung*, No. 15, 1844.

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*Corneliani on Chlorosis.*

PROFESSOR CORNELIANI announces the six following conclusions with regard to the seat, nature, and treatment of chlorosis:—1st, It consists in extreme irritability of the heart and arteries, whence follows defective formation of chyle and blood; 2d, Iron is the best remedy; 3d, The beneficial influence of the different preparations of that metal varies according to their greater or less solubility in organic fluids; 4th, The exhibition of acids along with the iron does not increase its activity; 5th, Iron filings become converted in the stomach into lactate of iron; 6th, It is useless and even hurtful to exhibit the iron in large doses.—*Annali Universali di Medicina*, Settembre 1843.

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FORENSIC MEDICINE AND MEDICAL POLICE.

*Adulteration of Alkaline Solutions with Oxide of Lead.*

M. CHEVREUL has announced that the solutions of the alkalies, potass, soda, baryta, strontia, and lime, when pure, and kept for some time in glass vessels, in the preparation of which lead is used, dissolve a notable quantity of the oxide of that metal. It is therefore indispensable in analytic researches, with regard to any of the salts of lead, to examine the alkaline solutions, and ascertain that they are uncontaminated by any metallic adulteration.—*Archives Gén. de Méd.*, Octobre 1844, p. 253.

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*Researches regarding the Salts of Copper.*

MM. DANGER and Flandin fed a dog for fourteen consecutive months on food mixed with a solution of sulphate of copper, the daily dose being from

eighteen to twenty centigrammes; by the end of the time allotted to the experiment, the animal had taken about 900 grains of the salt. The copper was excreted by stool *solely*, the urine never presenting the slightest trace of the metal. At the end of fourteen months, after an interval of four days, the time deemed necessary for the evacuation of all the copper that the intestinal tube contained, the animal was killed. The mucous membrane of the digestive canal was found reddened and strongly injected throughout its whole extent, in some places softened, and reduced as it were to a pulp, but nowhere was there any ulceration or solution of continuity. Distinct but feeble traces of copper were obtained from the liver on analysis, but none whatever could be detected in the heart, lungs, brain, kidneys, urine, muscular flesh, or bones.—*Arch. Gén. de Méd.*, Octobre 1844, p. 255.

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*Poisoning with Lime.*

A boy, æt. three, swallowed some slacked lime, and as it tasted somewhat sweetish, ate a considerable portion of it. A medical attendant having almost immediately arrived, ordered an emetic, by which a quantity of a grayish mass resembling mortar was ejected; when the vomiting had ceased, an oleaginous emulsion was exhibited. During the night, the child had considerable fever and much thirst; several vesications were observed in the mouth, the abdomen was hot and painful on pressure, and the stools bloody. Besides the oily emulsion, leeches and emollient fomentations were then applied to the abdomen, and the mouth frequently washed with oil, and in eight days the patient was completely recovered.—*Casper's Wochens.* No. 32, 1844.

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*Mark of Strangulation from the Umbilical Cord.* By Dr MUTTER.

THE author was required to attend a female in labour with her second child; the breech presented, and parturition proceeded favourably until the whole body of the child was expelled, when some difficulty occurred in extracting the head owing to contraction of the outlet. The child was dead, however, before the head entered the pelvis, for, as soon as the umbilicus was born, the cord was found to be pulseless. The funis was firmly entwined round the neck, and when removed, the neck exhibited a livid ring of a finger's breadth, smooth and shining; on cutting into this mark, no subcutaneous ecchymosis was found.—*Medisin Zeitung*, 1844, No. 3.

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*On the Injury resulting to the Health of Individuals inhabiting New Houses.*  
By Dr RIEDEL.

AN interesting paper on the above subject is contained in the third Number of the *Journal für Practischen Heilkunde* for 1844. The atmosphere in such buildings becomes contaminated or altered in its composition. These changes may arise from several sources;—the moisture of the atmosphere may be increased from the exhalation of watery vapour from the wood, stone, and mortar used in the construction of the building. The carbonic acid in the air may be diminished by combining with the lime, or with certain metallic salts, used as colour stuffs for the walls and wax-cloths. The author further remarks, that the air contains particles of lime suspended in it, and that, where the rooms are much heated by stoves for the purpose of drying the house, if the walls have been painted with colour stuffs of

lead or arsenic, these metals may be volatilized, and thus act injuriously through the lungs. As diseases likely to arise from the above-mentioned causes, the whole category of ills that could befall the body are enumerated. We can easily understand how bronchitis, rheumatism, and similar affections might result from the aforesaid conditions of the atmosphere; but when the writer includes among these diseases gastro-malacia, gangrene of the lungs and uterus, we are inclined to think his imagination has outstripped his judgment. Dr R. concludes by inviting the government to enact certain sanitary restrictions regarding the inhabiting of newly built houses.

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## PART IV.—MEDICAL MEMORANDA.

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THE professional friends of Dr Abercrombie, entertaining a strong desire to express by some public memorial the respect and affection in which he was held as a physician, a philosopher, and a man, by the whole medical profession, have requested the following committee to determine in what manner these wishes could be best carried into effect.

Robert Renton, M.D., President to the Royal College of Physicians; James Simson, M.D., President to the Royal College of Surgeons; Professor Christison; Professor Syme; Professor Traill; Sir William Newbigging; Dr MacLagan; Henry Marshall, Deputy Inspector of Army Hospitals; Alexander Cockburn, Surgeon, R.N.; George Smyttan, M.D., H.E.I.C.S.

The committee having met on the 25th November, resolved,—

1st, That the wishes of Dr Abercrombie's professional friends would be best fulfilled by placing in some appropriate public situation—to be afterwards fixed upon by the subscribers—a MARBLE Bust of their deceased friend, to be executed by Mr Steele, who is fortunately in possession of the necessary materials for producing an accurate likeness.

2d, That to carry out this object subscriptions shall be immediately commenced, and that the Medical Profession in Scotland be invited to contribute.

3d, That Dr Renton, 26 Howe Street, be appointed *Treasurer*, and Dr Simson, 10 Hope Street, *Secretary*.

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WE are obliged by want of room to postpone a notice on rupture of the heart, and on the weight of the brain, illustrative of the account given in our last Number of the appearances met with in Dr Abercrombie's body on dissection.

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### ROYAL COLLEGE OF PHYSICIANS, EDINBURGH.

At the annual election meeting of the Royal College of Physicians, held on the 5th instant, the following gentlemen were elected office-bearers for the ensuing year :—

Dr William Beilby, *President*; Dr Robert Renton, *Vice-President*; Dr J. H. Davidson and Dr James Wood, *Censors*; Dr Charles Ransford, *Treasurer*; Dr David Craigie, *Secretary*; Dr William Seller, *Librarian*; Dr Robert Spittal, *Fiscal*; Dr James Stark, *Keeper of Museum*; Mr Kenneth Mackenzie, *Clerk*; Mr John Small, *Under Librarian*; Dr William Beilby, Dr Robert Renton, Dr J. H. Davidson, Dr Robert Christison,



Dr David Craigie, Dr Charles Ransford, and Dr George Paterson, *Examiners of Foreign Graduates.*

*Edinburgh, December 5, 1844.*

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#### EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

OFFICE-BEARERS FOR 1844-5.—Dr John Gairdner, *President*; Mr W. Brown, Dr Robert Hamilton, Dr W. Beilly, *Vice-Presidents*; Dr S. A. Pagan, Dr W. Seller, Sir W. Newbigging, Dr J. Brown, Dr R. Spittal, Dr G. Weir, Mr J. Syme, Dr R. Christison, *Council*; Dr Robert Omond, *Treasurer*; Dr Douglas MacLagan, Dr James Duncan, *Secretaries.*

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#### DEATH OF DR HOME.

DR JAMES HOME, late Professor of the Practice of Medicine in the University, and one of the Physicians in Ordinary to the Queen for Scotland, died on Thursday 5th December, at the advanced age of 84. It is only two years since he relinquished the chair. Dr Home was a Professor for upwards of forty years, having succeeded his father, Dr Francis Home, in the chair of *Materia Medica* in 1799. This he held to the time of his appointment to the Chair of Practice, on the death of Dr Gregory in 1821. On *Materia Medica*, Dr Home was popular in the University, particularly during the last years of his holding that professorship. This increase of popularity was chiefly owing to his having adopted, in the chemical department of his course, the new views of Sir Humphry Davy on the subject of chlorine. For, while Murray, then one of the greatest ornaments of the Edinburgh School, keenly opposed these views, seeking to overthrow them by experiment, and Hope hesitated to adopt them, Home remodelled this part of his lectures, and so closely followed Davy's nomenclature and explanations, that the student did not learn from him that there ever had been any other. In the chair of Practice, Dr Home was a zealous teacher; no teacher, perhaps, ever took greater pains with his lectures; yet their success latterly was far from proportioned to the pains bestowed upon them. Dr Home also held for many years the appointment of Clinical Professor, and in the clinical wards he had the reputation of being a discriminating and sound practitioner, though attached perhaps a little too much to the lancet. In private life, Dr Home was held in much esteem in the circle of his friends.

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A correspondent suggests that the publication of a *Drug Prices Current* in this Journal would be a convenience to country practitioners. With this recommendation we should have complied, but that we observe some of the London houses (for example, Messrs Hewlett and Goddard, 6 Arthur Street West, Upper Thames Street), advertise that they will forward, free of postage, *Drug Prices Current* to any applicant who sends his address.

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PAPERS have been forwarded, or are in preparation, for the succeeding Numbers of this Journal, by Dr William Weir of Glasgow; Dr P. S. K. Newbigging, Fellow of the Royal College of Surgeons, Edinburgh; Dr Halliday Douglas, one of the Physicians to the Royal Infirmary, Edinburgh; Dr G. Wilson, Lecturer on Chemistry, Edinburgh; Dr Fairbairn, Fellow of the Royal College of Physicians, Edinburgh, &c. &c.

THE  
NORTHERN  
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No. X.—FEBRUARY 1845.

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PART I.—ORIGINAL ARTICLES.

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*Remarks on Ischuria Renalis ; with Cases.* By WILLIAM WEIR, M.D., Physician to the Glasgow Royal Infirmary, &c.

I HAVE named the disease upon which I am to offer a few remarks *Ischuria Renalis* ; but I find Good and some other nosologists have considered under this name a stoppage of urine depending on some cause affecting the kidney, in contradistinction to those cases depending on affections of the ureter, bladder, or urethra, in all of which the urine is secreted, but cannot be discharged ; whereas I intended to mean by it a want of the secretion of urine altogether, or, as Good calls it, a destitution of urine,—the *Paruria Inops* of that author, not the *Paruria Retentionis*, in which he includes all the varieties of Retention of Urine. It is quite evident that these two affections,—the suppression or destitution of urine, and the mere retention or stoppage of urine,—are perfectly distinct from one another ; indeed, as widely different as any two diseases can be, having nothing whatever in common, except that in neither is there any urine passed out of the body ; in the one from there being none secreted, and in the other from its being not discharged, but retained in the kidney, the ureter, or the bladder. Morgagni divided the disease *Ischuria* into four species : 1. *Renalis* ; 2. *Ureterica* ; 3. *Vesicalis* ; 4. *Urethralis* ; but he considered the first as the true *suppression* or suspension of the secretion of urine ; the others being different forms of the *retention*. Good, on the contrary, has the same division, but he treats of the whole four as species of retention, and applies the term *inops* to the true suppression. Sauvages and Cullen appear to have confounded the two diseases, suppression and retention. Most writers, however, agree with Morgagni, and treat of the non-secretion of urine under the term *Ischuria Renalis* ; and it is to this affection that the following remarks shall be confined. The writer of the article “ *Ischuria Renalis* ” in the *Cyclopædia* of

Practical Medicine, proposes to distinguish, what have often been confounded, the non-secretion of urine from the retention of urine in the kidney, by naming the first *Ischuria Renalis Suppressionis*, and the other *Ischuria Renalis Retentionis*.

The suppression of urine I am disposed to consider a disease of very rare occurrence. Although I have looked over a considerable number of medical works, I can find very little information concerning it. There are only a few cases scattered here and there in our periodical literature; but I know of no regular treatise on the disease. Dr Abercrombie\* has made some valuable observations on the affection, and given a few cases; and Dr Brown,† in his *Essays on Rheumatism, Diseases of the Heart, &c.*, has a section on ischuria. Mr Howship‡ also, in his *Treatise on Urinary Complaints*, gives several cases. All these papers may be consulted with advantage.

Although generally symptomatic, ischuria renalis is occasionally met with as an idiopathic affection. A partial and sometimes a total suppression takes place in cases of fever and some acute inflammatory diseases; and also as a consequence of inflammation of the kidneys. In these it is only a symptom of the other diseases; and although very little urine may be passed, it does not often happen that the secretion is completely suspended. Sometimes, however, not a drop is secreted for many days, and such a state is always attended with very serious symptoms, and great danger to life. No symptom was so uniformly present, in the epidemic cholera which prevailed in this country in the year 1832, as a suppression of urine. In many of the fatal cases not a drop was passed from the beginning to the end of the malady. In old men of gouty habits, and who are also often affected with calculous complaints, suppression is most apt to occur. Some of the cases afterwards alluded to were of this description.

The absence of the urinary secretion has continued for various periods of time in different cases; generally, however, only for a few days, although sometimes for weeks, and even months. In some instances there will be a very small quantity only, perhaps an ounce or two, passed in the twenty-four hours. Such are cases of partial suppression, and in these the degree of danger is very much less than when the suppression is complete.

In this disease there will in general be no desire to pass urine, none being secreted. There is of course no swelling nor pain in the hypogastric region, the bladder being in fact empty. Nausea, vomiting, and constipation of the bowels, are usually present; also pain more or less acute in the region of the kid-

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\* Edinburgh Medical and Surgical Journal for 1823, vol. xvii. p. 214.

† Medical Essays on Fever, Inflammation, Rheumatism, &c. By Joseph Brown, M. D.

‡ Howship on Urinary Complaints.

neys, stretching down towards the groin in the course of the ureter, and sometimes along the thighs. When the disease is fairly formed, the pulse is generally slower than natural, and there is some degree of drowsiness, stupor, or coma, indicating an affection of the brain, from which proceeds all the danger in such cases. Some have remarked a urinous smell in the perspiration, but this I think is by no means common. Indeed, in most cases the skin is dry, the secretion from the surface being deficient as well as that from the kidney. When the former is abundant the danger will be diminished, as the skin will then in some measure serve as an outlet for the urinary elements. In many cases, also, the disease is preceded or accompanied by dropsical effusions into the various cavities of the body, which, there is some reason for believing, have the effect of preventing or moderating the very dangerous symptoms, arising from the detention of the urinary elements in the constitution.

The following cases will perhaps serve to illustrate the general symptoms and progress of this rather rare disease :—

Several years ago I attended E. C., aged thirty-seven, a discharged soldier, of spare habit of body and shattered constitution. After some days of drinking and dissipation, he requested my assistance on the 15th February. For four days previously he had passed no urine. He said he felt a strong desire to pass it, and made frequent efforts to do so, but without effect. Had severe pain over the whole abdomen, with nausea and vomiting. The pulse was quick and very feeble, the respiration hurried, and the countenance extremely anxious. He frequently cried out from the severity of the pain, and said that if he could pass urine he would be well. There was a general tumefaction over the whole belly, but no particular swelling in the region of the bladder could be discovered. A dose of Epsom salts had been exhibited, which operated well, but no other treatment adopted.

This case was at first considered, by myself and other three surgeons, a case of retention of urine. The catheter was introduced, and about half an ounce of healthy-looking urine flowed through the instrument; but neither then, nor at any time during the man's life, could any more urine be procured. He never passed any naturally, and although the catheter was frequently introduced, none could be got away. As the man said he had at a former period been affected with stricture of the urethra, and from some other circumstances, it was considered doubtful if the catheter was really in the bladder. This led to the trial of the hot-bath, anodyne injections, laxatives, and different-sized catheters, but without any effect. No urine was passed, and the man died early next morning, without any material change in the symptoms.

On inspection, marks of inflammation were found on the peritoneal coat of the intestines, and a large quantity of sero-puru-

lent fluid was effused into the abdominal cavity. Flakes of coagulable lymph floated in it, and the different convolutions of the bowels were slightly adherent together. The kidneys had a healthy appearance, and were of the natural size. The ureters were not enlarged, and they were quite pervious all the way to the bladder. The urinary bladder was of natural appearance, firmly contracted close upon the pubes, and empty. The chest and head were not examined.

This was evidently a case of acute inflammation of the peritoneum, complicated with total suppression of urine. It appears that no urine was secreted, except about half an ounce, for at least four days. That the suppression was only symptomatic, and that death was caused by the peritonitis, is proved from the appearances found on dissection, and from there being no symptoms of disease of the brain during life, which are very generally present in cases of idiopathic suppression of urine; to which may be added the healthy appearance of the kidney. In regard to the mistake committed in the diagnosis, and consequently in some measure in the mode of treatment, it may be remarked, that the case was singular in there being a constant desire to pass urine, a frequent straining to empty the bladder, and a belief on the part of the patient that if his urine was taken away he would be well. The pain complained of also appeared, from the description of the patient, to resemble that arising from over-distention of the bladder; while the general swelling of the belly preventing an accurate examination of the hypogastric region, and the fact of no urine having been passed for four days, all led to the opinion at first that it was a case of retention. This opinion was not at once changed by the introduction of the catheter, because it did not appear clearly that the instrument had reached the bladder; and it was only after repeated trials, and all other means employed having failed to procure relief, that the nature of the case was ascertained. Only a few hours altogether were allowed for treatment, the inflammation having evidently ended in copious effusion before medical assistance was called. I may further remark that, however distinct the symptoms of the two diseases—suppression and retention—may at first sight appear, similar mistakes have occurred. Indeed, there is scarcely a case of suppression of urine on record in which the catheter has not been introduced into the bladder,—an operation clearly unnecessary, if there did not exist some doubts as to the exact nature of the case.

The following case occurred to me a few weeks ago:—

On 10th November 1844, M. M., an unmarried healthy woman, aged about twenty-five, was much fatigued by violent exertion, and next day the catamenia appeared, being the regular period. This day also she had occasion to walk very rapidly a considerable distance, by which she perspired very

much, and the menses stopt suddenly. For the next two days, 12th and 13th, she felt rather unwell, but did her work as a domestic servant. On the 14th, I first examined her, when she complained of severe pain in the left side near the region of the spleen. It was at times violent, but occasionally intermitted. There was no fever, the pulse was regular, but she had some vomiting with headache. A mercurial and colocynth pill was given at night, and salts in the morning. These operated sparingly, but with some relief, so that on the 15th she did her work and was out of doors, but she had severe headache with nausea, and took scarcely any food. On Saturday, 16th, the pain became exceedingly violent, and now resembled the spasmodic pain which accompanies the passing of a gall-stone, or a calculus in the ureter. It stretched down towards the groin, and also to the back on both sides of the spine, in the region of the kidneys. Firm pressure in this last situation increased the pain. The pain being so violent and the pulse not accelerated, she was ordered fifty drops of laudanum, and a sinapism was applied to the pained part, it being inconvenient to procure a hot bath. She dosed a good deal in the evening, but passed a bad night, with severe pain, vomiting, drowsiness, and sometimes vertigo. These symptoms were attributed in part to the laudanum. On the 16th, she had twice castor-oil without any effect, and on the morning of the 17th, the symptoms continuing unchanged, and the pulse being only 50, led to particular inquiry as to the urinary secretion, and it was ascertained that she had passed none since the Thursday, being nearly five days. There was no tenderness of the belly, and no swelling in the region of the bladder, neither had she the least desire to pass urine. It was proposed to introduce the catheter as a precautionary measure, but to this she would not submit. Having had no motion in the bowels for two days, she had salts and cream of tartar, also a common purging enema, and then a turpentine enema, but without any effect. Copious evacuations, however, were procured by means of calomel, scammony, and rhubarb, but no urine was passed. She was also ordered small doses of spt. æther. nitros. During the night she passed a few drops of urine when at stool. The pulse was still only 50, and the pain in the region of the kidneys continued; but the nausea and vomiting had abated, although she still complained of headache and vertigo. A large sinapism was applied to the back, which produced much superficial inflammation, with great relief to the pain. On the morning of the 20th, having passed during the night several watery stools, the pulse beat exactly 62 in the minute; she still felt heavy, oppressed, and giddy when in the upright position, and the suppression of urine continued. She was now removed to the Royal Infirmary, where she was treated, by the attending physician, with frequent doses of

*pulv. jalap. co. spt. æther. nitros.*; and she had also the hip bath occasionally. On the 21st, she had several loose stools, and passed a small quantity of urine, by which all her symptoms were relieved, and she took some food. For several days after this there was not much change; the urine was still very scanty, the pulse slower than natural, and she had occasionally pain of head, drowsiness, and vertigo, but no pain in the region of the kidneys since the application of the last sinapism. On the 26th, she was again nearly twenty-four hours without passing any urine, but next day it flowed more freely than it had yet done, and she left the Infirmary at her own desire, all her symptoms being relieved. For several days after this, however, she was still unwell, having headache, nausea, and sometimes vomiting, and the pulse was occasionally below 60. The urine was scanty, but there was always some passed every day. On the 2d December she resumed her work, and she is now (14th December) apparently in good health.

I considered this a distinct case of suppression of urine arising from some affection of the kidney. The suppression was complete for at least five days, and partial for many days after. Besides the pain in the region of the kidneys, she had the vomiting, headache, vertigo, stupor, and above all, the remarkably slow pulse, all characteristic of this affection. I had no reason to suppose that the patient did not tell the truth. Previous to going into the Infirmary, she was much under my own eye, and if any mistake or imposition took place, it would rather be by her asserting that she passed urine when she did not, than the contrary, as some person had told her that it would perhaps be necessary to take it away with an instrument, at which she was greatly alarmed. I have therefore no doubt whatever that the general history of the case, and the progress of the symptoms, are quite accurate.

The following is an abridgment of a very interesting case of this disease, which was read to the Glasgow Medical Society twenty-two years ago, by the late Mr George Macleod, and which will be found, with his remarks, in the 7th volume of the Society's Manuscript Essays.

The patient was a healthy temperate man, aged sixty. The symptoms were pain in the region of the kidneys not aggravated by pressure, fever, urgent thirst, and incessant vomiting. The pulse was 80, and firm. He had no stool, and passed no urine for three days previous to 7th September 1805, and for eight days before that time the urine had been very scanty and of a bloody appearance. He was bled to thirty ounces, and had purgatives and enemata which produced copious evacuations from the bowels, with considerable relief, but no urine passed. The catheter was introduced, and bladder found empty. He was very drowsy and stupid during the whole course of the disease, being scarcely

ever awake. He became salivated from sixteen grains of calomel taken in two doses. On the 14th he had anasarca over the whole body, particularly the eyelids. The drowsiness and vomiting continued, and he said that the matters vomited tasted like urine. On the 16th, the suppression having continued twelve days, the report states: "He is considerably worse; he has been seized with violent vomiting, and he says what he throws up has decidedly the taste of urine; pulse 80, strong and hard; skin hot and dry; the œdema has increased; the whole body exhales a disagreeable odour, and his breath is fetid; the drowsiness and suppression of urine still continue." At eight o'clock evening of this day he began to pass urine, and by eleven o'clock A. M. of next day, the 17th, no less than twenty-four English pints of a natural appearance had been evacuated, and he passed thirty-two pints in the first twenty-four hours. On the 18th fourteen pints, on the 19th seven pints, and on the 20th three pints were discharged. The anasarca immediately disappeared, and all the other symptoms gradually abated. The pulse rose to 90, and as it was now feeble, he was ordered stimulants and a good diet. On the 24th he was able to be out, and he lived in good health for several years. About six months after the attack, he passed a small urinary calculus without pain. Mr Macleod says he was at first inclined to attribute the suppression to nephritis; but he afterwards considered that the detention of the calculus in the ureter was the cause of the suspension of the function of the kidneys. "I believe that the calculus, in passing along the ureter, was the sole cause of the symptoms previously narrated, and that, when it dropped into the bladder, the cause of the disease having been removed, the urine began to flow, and in a quantity which astonished me not a little. My surprise proceeded more from the sudden absorption of the fluid, which had been diffused over all the body, than from the increased secretion; for we are accustomed to see even a greater quantity passed by a person labouring under diabetes," &c.

This explanation of the cause of the disease in the above instance does not appear satisfactory. The calculus in the ureter might produce *retention* of the urine above the point obstructed, and that on one side only; but it is not at all probable that it could cause suspension of the secretion in both kidneys, otherwise, from the prevalence of calculous disorders, we should meet with suppression of urine much more frequently than we do. If Mr Macleod's opinion be correct, then the case was one of *Ischuria Ureterica*, not *Ischuria Renalis*.

I have said that this disease is of rare occurrence, and very generally proves fatal. Mr Hey of Leeds says that in a long-continued and extensive practice he had only met with a very few cases, and they all ended fatally. Sir Gilbert Blane mentions, in his treatise on the prevalence and mortality of various



diseases, that he had only met with two cases. Dr Francis Home, in his Clinical Cases, relates one which was treated chiefly with diuretics, but which proved fatal. The suppression does not appear to have been complete, for the patient passed from two to four ounces of urine daily. This patient was a robust coachman, aged thirty-five, who had severe headache and general fever, with pain in the region of the kidneys. He lost twenty-four ounces of blood at three bleedings, took large doses of cream of tartar and nitre, with the infusion of juniper and garlic pills, and he used the warm bath. These means gave some relief to the symptoms, but the urine did not increase. When the disease had continued twenty-six days, coma came on, attended with frequent vomiting, the pulse being generally from 60 to 70, and he died soon after. On dissection the right kidney was found inflamed, and both were rather enlarged, with watery vesicles on their surface and gritty particles in the pelvis. Fluid was found effused into all the cavities, about an ounce in each lateral ventricle of the brain. The heart was enlarged. This man was subject to gout, having had five attacks of that disease in the course of two years. There being so many morbid appearances found on dissection in this case, it may not be considered a well-marked case of suppression of urine, especially as in many cases of dropsy the urine is quite as scanty for many days together. It is set down by the author, however, as a case of *Ischuria Renalis*.\*

In the second volume of the Medical Essays and Observations there is a very interesting case related by Mr George Balderston, in which the suppression was much more complete. The patient was a female, aged thirty-five, who had been subject for two years to nephritic pains, and had frequently passed sand along with the urine. When the surgeon first saw her she had been ill for fifteen days, during which she had passed only one gill of urine. She had severe pain in the abdomen and in the region of the right kidney and ureter. The state of the pulse is not mentioned. The catheter was introduced, but no urine flowed. She seems to have been treated principally with large quantities of diluting drinks. Half a mutchkin of urine was passed in consequence of a turpentine enema. She does not appear to have had any coma or drowsiness; but she died in convulsions five days after she was first visited, the disease having thus continued twenty days. The peritoneum was found inflamed, and that portion covering the right kidney thickened. The right kidney was, as the author says, "of a monstrous large size," the blood-vessels on its surface being enlarged and turgid; a small quantity of pus and a number of stones, from the size of a pin's head to that of a pea, were found in the pelvis.

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\* Home's Clinical Cases, p. 288.

The left kidney was very small, but there were no stones nor sand in "any of the three small cavities which it had for a pelvis." The left ureter was contracted in its middle, and greatly dilated at its two extremities. No urine was found in the bladder, which was healthy.\*

Another case is related in the tenth volume of the Edin. Medical and Surgical Journal, and was treated successfully. The patient was seventy-two years of age, and complained of pain in the region of the kidneys, with considerable fever, restlessness, and obscure dull pain over the whole belly. The pulse was 60. The urine was suppressed from the 26th September until the evening of the 5th October, a period of nine days. He lost forty-one ounces of blood at three bleedings, got purgatives, which produced copious watery stools, and he took *spt. æther. nitros.* and cream of tartar in large doses. The author attributes much of the cure to the copious watery evacuations from the bowels, and he conceives the cause of the suppression to have been an inflammatory affection of the kidney, differing, however, from common nephritis in the absence of the high fever, painful micturition, and vomiting. He hazards an opinion that in this last the membranous covering of the kidneys may be affected, while in the other the substance of these glands may be the seat of the disease. I may mention that in this case, on account of the patient being rather corpulent, there was some difficulty in ascertaining whether or not the bladder contained urine; to settle which point the catheter was introduced, but no urine coming away, the surgeon confesses that he was very uncertain whether the instrument was in the bladder or not, and a consultation was called for the purpose of deciding this point.†

Another case, which I shall allude to shortly, is contained in the Edin. Med. and Surg. Journal for April 1823, and which I am inclined to consider a well-marked one, the symptoms and general appearances on dissection being those which will be most frequently found in cases of this disease. The patient was a robust man, a free liver, and the disease proved fatal on the ninth day. He complained of slight uneasiness, scarcely amounting to pain, in the region of the right kidney. He perspired profusely; but the perspiration had no urinous smell. The pulse ranged from 80 to 90. In the course of the nine days he made only about two pounds and a half of urine. He became drowsy on the third day, and soon fell into a state of lethargy, which gradually increased until the disease proved fatal. He lost 120 ounces of blood in the first six days. It was always buffy and cupped. He was blistered on the seat of pain, on the neck, and on the head. These, with purgatives and enemata, constituted the treatment. On dissection there was found effu-

\* Medical Essays and Observations, vol. ii. p. 308.

† Edin. Med. and Surg. Journal, vol. x.

sion on the surface of the brain, with thickening of the dura mater, and distention of the vessels of the pia mater. Both kidneys were much inflamed, the parts surrounding the pelvis of the right being thickened and ulcerated. There was a small calculus in each ureter. The author considers the case singular from the circumstance of there being discovered on dissection such distinct marks of violent inflammation, while there existed during life so little pain or symptomatic fever.\*

In Dr Abercrombie's paper in the *Edin. Journal* formerly mentioned, he relates five cases, four of which proved fatal. The first was a man aged thirty-nine, who was suddenly seized with vomiting and pain of the back, stretching round the abdomen. Pulse feeble and below the natural standard—great prostration—tendency to coma—jaundice. The treatment consisted of blood-letting, blisters, purgatives, and diuretics; turpentine by mouth and enema. He died on the eighth day, the urine having been suppressed for five days. On dissection, marks of inflammation and disorganization of liver, also disease of lungs. The adipose substance around the left kidney showed extensive marks of inflammation, and a part of it was black; but there was no disease of the kidneys. The second case was a man aged nineteen, with symptoms similar to the former. There was great prostration, but the pulse beat from 80 to 90. No urine was passed for five days. On the 6th it flowed in natural quantity, with an improvement of all the symptoms, except the coma, which increased. He died on the 7th in convulsions. There was found on inspection increased vascularity and slight effusion in the brain; and a portion of the ileum, to the extent of six or eight inches, was in a gangrenous state. The kidneys showed "some marks of inflammation." In the third case, a lady aged sixty, there was deep-seated pain in the left side, with vomiting and a frequent pulse. The symptoms were not very alarming while the urine was scanty, but it wholly ceased on the 5th day, when the pulse fell to 84, and there was great exhaustion. On the 9th day still no urine, and she became comatose, and died on the 10th, without any secretion from the kidney. There was no inspection. The fourth case was that of a gentleman aged seventy, who had at first no serious symptoms except that he had passed no urine for six days. "Catheter repeatedly used, and bladder found empty." On the 7th day he became comatose, and died on the 9th without passing any urine. "Repeated bleeding, purging, various diuretics, &c., had been employed." *Inspection.*—No urine in bladder, but three calculi. In pelvis of each kidney numerous calculi, and a small quantity of urine. Both ureters completely obstructed by calculi. "Considerable effusion in the ventricles of the brain; other viscera sound." Dr Abercrombie considers this

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\* *Edin. Med. and Surg. Journal*, April 1823.

properly a case of *Ischuria Ureterica*; but there was certainly a suspension of the secretion for some days, which sufficiently distinguishes it from this last-mentioned affection. He quotes several other cases in which there was obstruction in the ureters, giving rise to similar symptoms. The fifth and last case mentioned by Dr Abercrombie, as having occurred in his own practice, was that of a woman aged forty, who had pain in the region of the kidneys, with some fever. No urine had been passed for three days. She was bled to twenty ounces, blistered on the loins, and had twenty drops of *inct. digitalis* every three hours. "In the evening she passed some urine, next day it was abundant, and in a few days more she was well." This was the only case that recovered, and in it there was no affection of the head.\*

Sir Henry Halford mentions having seen only five cases of this disease, in the course of twenty-seven years' practice. He calls the complaint paralysis of the kidney. All his cases occurred in stout men between fifty and sixty years of age, and in three of them a strong urinous smell was present in the perspiration twenty-four hours before death; only one of them had complained of any nephritic ailment. The only case he details at length was that of a strong robust farmer, aged fifty-five, who was seized with suppression of urine after a rigor, but without any serious symptoms. "There was no pain, no sense of weight in the loins, no distention in any part of the abdomen." The catheter was introduced, but no urine found. Next day "another inquiry was made by one of the most experienced surgeons in London, whether the bladder contained any urine or not, when it appeared clearly that there was none. The pulse was somewhat slower than usual, and he was sometimes heavy and oppressed." This man very soon died "in a state of stupefaction." Nothing is said of the treatment or the appearances on dissection.†

The following case is related in the Dublin Transactions:—A man aged forty-one, for three years subject to gout, was seized with suppression of urine on 5th April. He had pain in the left iliac region, and some fever; the pulse was 70. No affection of the head mentioned. Catheter introduced, but no urine found. On the 8th his complaints were relieved, but still there was no urine; twelve ounces of blood were taken, and a blister applied to the region of the kidney; he had also a turpentine enema, and mercury was exhibited. On the 9th five or six drops of urine were passed; he was bled to fourteen ounces. On the 10th half an ounce of urine was passed; the mouth was affected. On the 12th he passed urine four times, about six drachms each time, of a pale yellow

\* Edin. Med. and Surg. Journal, vol. xvii. p. 210, &c.

† Essays and Orations by Sir Henry Halford, p. 31, &c.

colour. Copious liquid stools were discharged daily for some days, and he thinks he sometimes passed a small quantity of urine when at stool. On the 18th he again passed some, but he died comatose in the evening. On dissection the internal surface of right kidney was filled with gravelly particles, and in its pelvis there was a small calculus which blocked up the passage to the ureter. No urine however appeared to have been secreted by this kidney. In the pelvis of the left kidney a small quantity of urine was found, and a few calculi. The bladder also contained some urine and some calculi. There were no marks of disease in the other organs of the body, but nothing is said about the head.\*

In Dr Brown's *Essays on Fever, Inflammation, &c.*, there is a section on Ischuria Renalis, in which several interesting cases are related. I shall shortly allude to one or two of them. A man, not subject to gout, aged seventy-three, was attacked 8th January with pain in left iliac region and other symptoms. Up to the 11th he had made no urine. He was bled and freely purged, but the kidneys did not act. The catheter was used, but no urine found. Mercury was prescribed, and on the 14th his mouth was sore. He perspired freely, and was rather drowsy; but the urine was still suppressed. On the evening of this day, however, he passed four ounces of urine of a high colour, and on the 15th he passed five pints. After this he gradually recovered. In this case the urine was suppressed six days and six hours. The author was of opinion that the seat of pain was the ureter, but that there was inflammation of the kidney, although no pain was felt in the region of that organ. He attributes the cure chiefly to the mercury, as the urine began to flow so soon as the system was affected. No doubt the discharge from the bowels and the skin in this case, which was copious while the suppression continued, carried off the urinary elements from the system. It will be observed that this man was not bled, probably on account of his great age.

Another case was that of a man long subject to gout and gravel. In March 1822, the urine was totally suppressed for eleven days and some hours, during which it is stated that the catheter was frequently introduced into the bladder. At the end of this time a copious flow of urine took place, with the expulsion of a calculus, after which the patient gradually recovered. In 1828 the same man was seized, during an attack of gout, with severe pain in the region of the kidneys, and down left ureter, along with total suppression of urine, which continued until death, about thirty-six hours after. On dissection both kidneys were found to have been inflamed. In

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\* *Trans. of the Association of Physicians of Dublin*, vol. iv. p. 169.

another case, which also proved fatal, the urine was not completely suppressed, the patient passing a drop or two occasionally, but without any mitigation of the symptoms, which were highly inflammatory. The blood drawn was much buffed.\* In none of these cases related by Dr Brown was there any urinous smell in the perspiration, and in the first only was there any coma, which disappeared when the secretion of urine returned.

The short history of the above cases may perhaps serve to point out the manner in which this affection proceeds, and the severity of the symptoms which attend it. The great proportion ended fatally; and in those which recovered all the symptoms immediately gave way so soon as the urine flowed freely, clearly showing that the feverish state, the general uneasiness, and more particularly the drowsiness, stupor, or coma, with the slow pulse, all depend on the detention in the system of the urinary elements, more especially the azote, which it is the duty of the kidneys to discharge from the body by means of their usual excretion. In all cases, then, where it is stated that the urine was suppressed for some time without urgent symptoms or bad consequences following, there must have been some vicarious discharge set up to carry off the azote. I find Dr Abercrombie states, in his paper already quoted, that "cases have occurred in which the secretion of urine was suspended for a considerable time, without being followed by any affection of the brain or any urgent symptom."† The particulars of these cases are not given. In all such, if they are not cases of *retention* merely, accurate examination will discover an increased discharge from the body, by some other organ, by which fatal symptoms are prevented. Dr Parr mentions a case in which no urine was secreted for six weeks, and Haller alludes to one which continued for twenty-two weeks.‡ In the Philosophical Transactions there are various instances of a similar deficiency. It is probable that some of these may have been cases of partial suppression, and others mere retention. The most singular is the case of a young man, aged seventeen, who had never passed any urine from his birth, and had not felt any uneasiness in consequence, being apparently in good health. In all such cases, and particularly in this last-mentioned one, where the deficiency was congenital, the constituent elements of the urine must have passed out of the system by some of the other emunctories. The most common excretory organs, that supply the place of the kidney, and often alternate with it, are the bowels and the skin. In Dr Parr's case, there was a profuse sweat for a day or two, but the state of the bowels is not

\* Brown's Essays, Art. Ischuria Renalis.

† Edinburgh Medical Journal, vol. xvii. p. 213.

‡ Good's Study of Medicine, vol. iv.

mentioned. In the case where the suppression was congenital, there was a habitual diarrhœa, not attended with any constitutional disturbance, and there can be no doubt that by this channel the azote, which in ordinary circumstances is discharged by means of the urine, found a ready exit from the system. A curious case of this vicarious discharge is mentioned by Senner-tus. The patient was a girl aged thirteen, who had no secretion of urine for some days, but in whom a copious discharge of serous fluid from the ear took place, which appears to have prevented the usual dangerous consequences.\* There can be no doubt, also, that the general anasarca and effusion of fluid into the cavities, which so frequently attend complete suppression, is really another mode by which nature relieves herself from the danger attending the suspension of the function of the kidney. This is well exemplified in the case of Mr Macleod, the third in this paper.

It may be remarked, that in very many cases, properly designated by the name of suppression of urine, there will be a small quantity secreted; and when total suppression does occur, some other organ will take the duty of the kidney, at least for a day or two, and thus preserve life. And it is easy to understand that there is a very great difference in the degree of danger of a patient, whether the kidneys secrete a little urine or none at all. In the first case he may recover, or will at any rate live for some time, while in the other he cannot. A state similar to that of the first we often see in cases of general dropsy, in which the urine secreted will not amount to above two or three ounces in twenty-four hours, and this partial suppression continuing for weeks before the occurrence of the drowsiness, stupor, and fatal coma, arising, as in cases of true suppression, not merely from the effusion of fluid upon the brain, but also in part from the detention of azote in the blood. Sir Henry Hallford says, "If any water, however small the quantity, had been made in these cases, I should have thought it possible that the patients might have recovered; for it has often surprised me to observe how small has been the measure of that excrementitious fluid which the frame has sometimes thrown off, and yet preserved itself harmless. But the cessation of the excretion altogether is universally a fatal symptom in my experience, being followed by oppression on the brain."† It may appear singular that life should terminate so soon, when the functions of the kidney have become totally suspended. A person who receives no nourishment would probably live longer. Nay, I think it is stated by one physiological writer, but who I cannot at present recollect, that a person in whom there is a total suspension of the function of the kidneys, and no vicarious discharge takes place to remove the substance which naturally is discharged by the urine, would die as soon as if he were deprived of atmospheric air; the deten-

\* *Medicina Practica*, lib. iii. cap. 10.

† *Essays and Orations*, p. 31.

tion of the azote in the system being fully as speedily fatal as the detention of the carbon which is removed naturally by respiration. This, no doubt, is merely an opinion, which probably can never be proved either one way or the other; because, as I have just said, supposing both kidneys completely paralyzed in their action, it appears that the efforts of the system would immediately cause some other organ to do their duty, at least for a short time, but we have no such compensating organs in the case of a total suspension of the function of the lungs. That a suspension of the action of the kidneys, however, is attended with very great danger to life, is abundantly proved by the very rapid manner in which cases of suppression of urine prove fatal, as exemplified in some of those quoted in this paper.

With regard to the real nature of this disease I have little to say. I believe most authors look upon it as an affection of the kidney, and those who have hazarded an opinion on the subject seem to consider this affection of an inflammatory nature. Common inflammation, however, of a secretory or an excretory organ, is not necessarily, and in all circumstances, attended with a diminution in its secreting functions. An inflammatory affection of the liver is certainly sometimes accompanied by rather an increase in the secretion of the bile, as is seen in India and other warm climates; and inflammation of the mucous membrane of the stomach, the intestines, the bronchial tubes, &c., is always attended by an increase, rather than a diminution, of their respective secretions. So also the serous membranes often throw out an immense quantity of fluid when under inflammation. These last may not be considered very good examples, inasmuch as they are not furnished with a complicated secretory apparatus like the liver, kidney, &c.; but it is certain that we have an inflammation of these very organs—the kidneys—without suppression of urine, and this inflammation going so far as to terminate in abscess, few organs in the body being so liable to acute suppuration as the kidney. Still, from the appearances found on dissection in some of the fatal cases of suppression of urine, we must conclude that an inflammatory state sometimes exists, and is the cause of the disease; and I am certainly not able to propose any other state or affection of these organs, as more likely to explain the symptoms, phenomena, and progress of ischuria renalis. Local congestions, inflammation, calculi, and abscess, are set down by writers as the most frequent causes; but as to how these act in causing the suspension of the function of the kidneys, scarcely any opinion has been given. Cases of suppression, arising from all these causes, may be found in Howship's Treatise on Urinary Complaints. Probably the original cause is some affection of the brain and nervous system.

I am not aware of any regular series of experiments having been made on the blood and other fluids in cases of this disease,



with the view of ascertaining if urea or any of the other constituents of the urine could be detected. I know that this substance has been found in the blood in cases of cholera, in which suppression of urine was always more or less present. Dr O'Shaughnessy, after relating experiments which he made on the blood in cases of cholera, says :—" Urea exists in those cases where suppression of urine was a marked symptom."\* Prevost and Dumas found urea in the blood, after extirpation of the kidneys in the lower animals. In some cases of suppression and other urinary affections, fluid similar to urine has been vomited. A case of this kind is given in Dr Cormack's Journal, in which it is stated that the fluid vomited was afterwards analyzed and found to contain urine. The urine in this case was very scanty; but there never was suppression, although frequently retention.† Mr Macleod, in the manuscript essay already quoted, says :—" Dr Senter, in the Transactions of the College of Physicians of Philadelphia, gives an account of a young woman who laboured under retention of urine, which continued for more than three years, during which time, if her urine was not drawn off by the catheter, she frequently voided it by vomiting; and for the last twenty months passed much gravel by the catheter, as well as by vomiting, when the use of that instrument was omitted or unsuccessfully employed."

Dr Abercrombie‡ quotes Nysten§ as having described several cases in which suppression of urine was succeeded by copious vomiting of a fluid in which he detected urea, uric acid, and other ingredients of the urine. Also the case of a young man, in whom the saliva is said to have exhibited urinous properties for four days, while he was affected with suppression of urine. I believe it has been also stated, that in fatal cases of this affection the fluid found in the brain had a urinous odour.

It appears, then, of great importance that further experiments should be made on this subject, and that not only the blood, but the secretion from the skin, and also the fluid very generally thrown out into the different cavities of the body, in cases of suppression of urine, should be submitted to the test of chemical investigation. The results would certainly throw some light upon the exact nature of this affection, and would probably assist in pointing out means for bringing about the suspended function of the kidneys, and thus of materially relieving the symptoms, if not of curing the disease.

\* London Med. Gazette, vol. i., for 1831-2, p. 490; also, vol. ii. p. 226. See also papers by Dr Rainy and others in same work.

† Edin. Monthly Journal of Medical Science, vol. i. p. 410.

‡ Edin. Med. and Surg. Journ., vol. xvii. p. 214.

§ Recherches de Physiologie et de Chimie Pathologiques.

*Statistical Report on the Edinburgh Epidemic Fever of 1843-44.*

By A. HALLIDAY DOUGLAS, M.D., Fellow of the Royal College of Physicians, and one of the Physicians to the Royal Infirmary, Edinburgh.

(Continued from page 22.)

In the first part of this analysis the circumstances of the patients and the *general features* of the fever were investigated. The *special* symptoms of the malady have next to be considered. By the *special symptoms* are meant those derangements of the functions, and those minor morbid phenomena, which are appreciable during life, and which differ from what have been styled the *general features* of the fever, in so far as they directly indicate disorder of individual functions and conditions of the body in the state of health.

We propose to consider these *special symptoms* in connexion with the several great systems, as a much more distinct view of their individual importance will be thereby afforded. In carrying out this plan there has been some difficulty, as it was not always easy to determine under what head particular symptoms ought to be arranged. We do not believe, however, that in any instance the usual physiological arrangement followed by pathologists has been materially interfered with.

SYMPTOMS REFERABLE TO THE MORBID STATES OF THE  
NERVOUS SYSTEM.

*The Countenance.*—The appearance of the countenance varied with the stage of the disease, and also with the occurrence of the various accidental or secondary accompaniments of the attack. The face was flushed early in the attack, with a febrile and in some cases an excited expression, and suffused eyes. In many cases, more especially at an advanced stage, an expression of languor and depression supervened. An appreciable difference existed between the appearance of the countenance in this disease and that in our more usual epidemic typhus. We would define the difference to consist rather in the *absence* of certain characters, than in the *presence* of any well-marked or uniform appearance of the countenance in our cases. In the cases of the epidemic I am specially considering, the florid and more brilliant hue predominated; while in typhus the aspect is generally more dingy, with a greater or less degree of a purple hue. This distinction, however, is not to be received as absolute and invariable. Again, in our late epidemic, the countenance did not present that oppressed, unintelligent, and at times besotted appearance, which is so frequent even in the early stage of the milder cases of typhus.

*General Uneasiness.*—This condition was invariably com-

plained of in every stage, and always marked the attack of the disease.

*The Muscular Force* was reported to be more or less enfeebled in every case. The debility was not very remarkable during the pyrexial stages, and in some cases was quite insignificant. Absolute prostration of strength was scarcely observed except in a few fatal cases, and occasionally about the time of a crisis.

*Headache.*—No case altogether escaped without the occurrence of headache. The invasion was almost invariably reported to have been attended by this symptom. In many cases it was of no great severity, and lasted a short time only; but in the majority of the cases it proved troublesome throughout the febrile paroxysms.

*Sleep* was in most cases disturbed during the continuance of fever, in many instances to a very slight extent. Restlessness and entire sleeplessness were not frequent, though a disturbed, dreaming, slumbering state was not uncommon. About the period of commencing convalescence want of sleep was a frequent complaint, probably owing to the disturbance induced by the pains which were so characteristic of this fever. At this stage opiates rarely failed to procure sleep, which was followed by a very marked improvement in the general comfort of the patient.

*Deafness.*—Only 12 of the (220) cases presented this symptom as an accompaniment of the attack. In 8 of these 12, it was very slight, and did not continue for more than one or two days. In 4 cases the deafness was more decided, and lasted upwards of four, and in one upwards of ten days. Of these 4 cases, 3 were tedious in their progress, presenting repeated *relapses*, and the deafness supervened at an advanced stage—presenting more the appearance of a *sequela* than of a concomitant symptom. In the 4th the deafness occurred early in the attack, and was accompanied by severe headache.

*Tremor, Subsultus, &c.*—Tremor was not met with except along with dissipated habits. Subsultus tendinum was observed only in two of the uncomplicated cases, and was very slight in these two. In other cases, which there was reason to believe were complicated, subsultus and even picking the bedclothes were observed. No authentic case of convulsions occurred, although a confused account was given by the nurse of a fit with which a boy was affected. Retention of urine did not exist in any case. Involuntary evacuations occurred in not more than six cases, all of which were fatal; and in some of these the discharges were owing rather to the extremely lax state of the bowels, than to any degree of insensibility.

*The Mental State.*—In the majority of the cases delirium was altogether wanting; in consequence of which we were

enabled to obtain much more precise information as to the history and state of the patient, than in some other fevers. Many cases presented, especially at night, a slight degree of excitement occasionally with wandering and talkativeness—the intelligence remaining distinct; slight confusion did, however, at times exist in these cases. The crises were frequently accompanied by a mental languor which generally corresponded with the degree of physical prostration.\* A slight degree of excitement was occasionally observed with the crises. Leaving out of consideration these cases, in which the mental disturbance was not such as to attract special notice, 18 of our 220 patients presented a notable degree of—

*Delirium*, that is, about 8 per cent.

The sex of these 18 cases with delirium, was—male in 14 instances; female in 4. The age was noted in 17 of these cases, and was as follows:—

No. of the Cases.	Their Age.	The proportion per cent.
3	were under 20,	which gives 4
9	... above 20, but under 50,	... 8
5	... 50, ...	... 18 (nearly).

The habits in these 18 cases with delirium, were intemperate in 6 instances—that is, delirium occurred with a frequency of 22 per cent. in intemperate subjects. The delirium in most of these cases was of an excited character, two having well-marked delirium tremens. In one† the disease became typhoid, with muttering and insensibility.

The delirium appeared at times to depend upon other causes. In one man it was connected with disease of the brain, which proved rapidly fatal. In another it lasted only while the patient continued under the influence of large and repeated doses of opium, which it was thought necessary to administer. In the remaining 10 cases, no such accidental cause of delirium was ascertained to exist; we are therefore constrained to conclude that it was in these more directly connected with the attack of fever; in other words, that there is a liability to the occurrence of delirium even in the simple cases of the fever, but in this small proportion; that is, about 5 per cent.

The mortality amongst the cases with delirium was in the proportion of 27 per cent., 5 having proved fatal. These were all male; 3 of them were above 60, and 2 were between 30 and 40; 2 were intemperate. One died from softening of the brain.

Regarding the character of the delirium, it may be stated

\* See Phenomena of the first Crisis.

† See note, page 212.

that a low restless muttering, with obscured intelligence and sensibility, occurred in 3 cases;\* restless, wandering delirium, quickly succeeded by coma, existed in one;† and delirium tremens in 2. With the exception of one of the cases of delirium tremens, all of the six preceding cases proved fatal. In 3 cases which recovered, the delirium was more or less noisy, with disposition to rise from bed, mental wandering, and confusion. These 9 cases may be classed together, representing the cases of more decided or active delirium. In the 9 cases which remain, the delirium was characterized by a less degree of restlessness, and the intelligence was more distinct. The 4 female cases were amongst this number.

THE SYMPTOMS REFERABLE TO THE MORBID STATES OF  
THE CIRCULATION.

*The Force of the Pulse* was less than natural, from an early stage; stimuli were not, however, used, except in the last stage of some of the very worst cases. *Irregularity* of the pulse scarcely existed, and only towards the close of some fatal cases.

*The Frequency of the Pulse.*—The number of cases in which the pulse never exceeded 100 was small. It exceeded 120 in rather less than half of the cases—viz. in 105. In 20 of these 105 cases, the pulse exceeded 140 in the minute; in 29, it was above 130 but under 140; and in 56, above 120 but under 130.

The sex of these was male in 53, female in 52.

The following tabular statement expresses the number per cent. of the cases in which the pulse acquired the above rates of frequency in the different periods of life. The fourth division of the statement expresses the proportion per cent. for these different periods of life of all the cases in which the pulse exceeded 120. The fifth division expresses the proportion per cent. for these different periods of life of those cases in which the pulse exceeded 130 in the minute. The first column expresses the frequency of the pulse; the second, the age of the patient; the third, the number per cent. which presented these several rates of frequency.

Rate of Pulse.	Age.	No. per cent.
1st, Above 120, under 130.	Under 10.	22.
Do.	Above 10, under 40.	19.
Do.	Above 40.	27.
2d, Above 130, under 140.	Under 10.	22.
Do.	Above 10, under 40.	12.
Do.	Above 40.	14.

\* In one of these there was reason to suspect disease of the brain, but no opportunity of verifying this was afforded.

† This case presented softening of the brain.

Rate of pulse.	Age.	No. per cent.
3d, Above 140.	Under 10.	22.
Do.	Above 10, under 40.	8.
Do.	Above 40.	6.
4th, Above 120.	Under 10.	66.
Do.	Above 10, under 40.	46·9.
Do.	Above 40.	47.
5th, Above 130.	Under 10.	44.
Do.	Above 10, under 40.	20.
Do.	Above 40.	25.

From all these calculations, except the first, it appears that the high rates of the pulse are much more frequent in the earlier than in the later periods of life. This difference is decided in regard to all these rates of frequency, but most especially in the highest, as demonstrated in the second, third, and fifth calculations; and the fourth calculation fully counterbalances the apparent contradiction which the first presents to this conclusion. There appears to exist no difference in regard to the frequency with which the high rates of the pulse occur, between what is here termed the middle and late periods of life; but the number of cases, on which the calculations are founded, is rather limited to enable us to institute a just comparison between these.

The length of time which these rates of frequency of the pulse endured has been noted in 84 case. In 62 of these, the pulse fell within twenty-four hours; that is, from 120, in 32 cases; from 130, in 16 cases; and from 140, in 14 cases. The high rate of pulse does not of itself indicate danger; one-third only of the deaths occurred amongst these 105 cases; and none of them occurred in cases which presented the pulse above 140. 28 of the complicated cases were of the number with the high rate of pulse.

*Temperature.*—This was in every instance elevated during the febrile paroxysm. In the few cases in which the thermometer was used, it was found in some cases as low as 99°, and in no case higher than 102°.

#### SYMPTOMS REFERABLE TO THE MORBID STATE OF THE DIGESTIVE ORGANS.

The following report on the state of this system is less strictly "numerical" than the term "statistical" demands; but in many instances this is of little importance, as no practical inference of any value would have been conveyed by such details; and wherever it is of real importance, we have endeavoured to express in numbers the value of the indications.

*Epigastric Tenderness.*—This was probably connected with the stomach, and therefore we take it into consideration in this place. It was an invariable accompaniment of the attack, occur-

ring along with the earliest symptoms, and rarely disappearing till after the crisis; it again occurred with the relapse. The degree of pain varied from the most trivial tenderness to the most acute pain, causing much uneasiness, and frequently interrupting free respiration. It was most generally limited to the epigastric region, but at times extended to the hypochondriac, more especially the right. In other regions of the abdomen tenderness was not observed, except in connexion with some secondary or accidental cause.

*Thirst* was an invariable and an early source of complaint, and rarely yielded till after the crisis.

*The State of the Tongue.*—This has not been investigated minutely, with reference to the stages of the attack. In 200 of the cases, it was more or less dry in 81; and in the remaining 119 it was moist throughout the attack.

Of these (119) cases, the morbid condition was very trifling in 74, consisting in most of these of a thin film of gray mucus; the organ not unfrequently, however, presented a red tip, and occasionally a red streak. In a few mild cases, the tongue remained almost natural throughout the attack, and in a small number it was red and glazed, though moist. In the remaining 45 cases, of the 119 with moist tongue, the organ was *coated with a fur* varying in its thickness, appearance, and in the stage of the disease at which it presented itself. In some cases it was confined to the central part of the tongue, in the form of an ash-coloured or brown streak. In other cases it was diffused over the whole surface of the organ, *first*, in the form of a uniform gray fur; *secondly*, of an ash-coloured fur, increasing and deepening in colour towards the centre; *thirdly*, of a thick brown fur; and, *fourthly*, in a few cases the tongue presented a thick bright yellow fur.

In the 81 cases presenting the *dry tongue*, the dryness was limited to a central streak in 28 cases; the whole surface was dry, but without crust, in 30; and in 23, the tongue was dry and brown,—in some of these being *thickly crusted*. A marked difference was observed in the frequency of the deaths, jaundice, and delirium, in the cases with the “tongue *partially dry*,” and those in which its surface was *quite dry*, with or without crust. In the former cases, death and jaundice were met with, each with the frequency of 7 per cent.; delirium rather less than 4 per cent. In the latter cases, death occurred in 16 per cent., jaundice in 18 per cent., and delirium in 13 per cent.

Of the complicated cases, 41 in number, 33 presented the “dry tongue.”

*Vomiting* so frequently existed, at one stage or other of the disease, that it has been believed to be closely connected with this form of fever. It was very generally associated with the epigastric tenderness, though the degree of the latter was not always the greatest when vomiting was most urgent.

The vomiting was met with at every stage of the febrile paroxysm; but its existence with the accession of the disease was the most remarkable, from its frequency,—its severity,—its suddenness of attack, and the *early date* of its occurrence. The mildness of the case did not afford any protection against it. Few cases were admitted till the urgency of this symptom had abated, which it generally did on the second or third day; the tenderness of the epigastrium, however, often continued in an increased degree. Recurrence of the vomiting throughout the attack occurred in a small number of cases, giving rise to a considerable degree of exhaustion, but to serious prostration only at an advanced stage, and in cases where some local complication existed.

The matters vomited were in a very remarkable degree tinged with the bile from the very first. The ingesta constituted the chief part of the matters vomited, but most distressing retching often continued after the stomach had been emptied. Dr Cormack, in his description of the matters vomited, has adopted the formidable name, "Black Vomit." I cannot tax myself with having overlooked such an important circumstance, as this vomit must have been, in the progress of any of my cases, and I cannot discover that such a description of the matters vomited is entered in the reports of any of them, except in some of those presenting the most severe forms of the dysenteric complication, and in one case in which peritonitis succeeded the attack of fever. This is not sufficient to prove that this peculiar fluid may not be vomited in uncomplicated cases of the fever; but its occurrence must be so rare as by no means to justify us in concluding that it is a characteristic symptom even of the severe cases. But if its occurrence were more frequent, the name is most objectionable, as implying a similarity between this form of fever and the yellow fever, which facts do not substantiate.

*The State of the Bowels.*—The bowels were almost invariably somewhat constipated. An easy state of the bowels was maintained by the use of mild purgatives; cathartic doses were occasionally required, and the cases stood their action well. Diarrhœa occurred in a certain proportion of the cases, generally at a late stage, and apparently connected with a lesion analogous to that met with in cases of dysentery. This lesion will be considered under the complications.

Minute reports have not been kept of the state of the alvine evacuations. They appeared mostly to have been dark-coloured; in some of the worst of the complicated cases, a dark grumous fluid discharge was observed; and in these cases blood and mucus at times in considerable quantity were mingled with the evacuations.

*Jaundice.*—The frequency with which jaundice accompanied this fever led to much misapprehension of the relation which it



bore to the disease; but its frequency appears to have been altogether exaggerated. Only 29 of our 220 cases presented this condition. These cases with jaundice we shall consider,—1st, According to the degree of its intensity; 2d, According to the stage of the attack in which it existed; and, 3d, We shall consider those cases in which the jaundice was co-existent with a crisis, as distinguished from those in which it occurred during the development of the febrile state.

1st, According to the degree of its intensity, the jaundice may be considered under three heads:—*First*, The intense bright jaundice, which existed in 11 of the cases; and in these the jaundice occurred during the development of febrile symptoms, and chiefly in the primary attack. *Second*, A less intense, though complete jaundice, which existed in 9 of the 29 cases, and occurred during the development of febrile symptoms in 4, and was concurrent with a crisis in 4 cases,—the notes of one case are imperfect. *Third*, A faint jaundice, amounting to mere dinginess of the skin, the sclerotic coat of the eye being the chief seat of colour. This degree of jaundice also existed in 9 cases, and occurred during the development of febrile symptoms in 4 cases, and concurrent with a crisis in 5.

2d, The stage of the disease in which the jaundice occurred was as follows:—In 16 cases it occurred in the primary attack alone; of these 16 cases 2 presented the jaundice on the fourth day—none were affected earlier than this. In 10 cases the jaundice occurred in the relapse alone. In 2 cases the jaundice occurred in both the primary attack and the relapse. In one case the particulars could not be ascertained.

3d, The jaundice was concurrent with a crisis in 9 cases—viz. with the first crisis in 5, and with the second in 4; these 9 cases presented either the second or the third degree of the jaundice. In 18 cases the jaundice occurred during the development of the febrile symptoms—viz. in 11 cases in the primary attack, in 5 in the relapse, and in 2 in both.

Vomiting was not more frequent or troublesome in the cases with jaundice than in the ordinary cases. The evacuations, when noticed, are reported to have been of a dark colour. Delirium was associated with the jaundice in 6 cases; 3 of these presented one of the more strongly marked or active forms of delirium; in 5 of them the jaundice occurred during the development of febrile symptoms; in 4 the complete jaundice existed; in 2 death occurred, both presenting the most intense degree of jaundice and the muttering delirium. The dysenteric complication occurred in 6 cases which had presented jaundice; two of these proved fatal.

Of the 29 cases with jaundice there were 4 fatal; 3 of these presented the complete jaundice, and 1 the jaundice in the third

degree. Death, in the last case and in one of the first three, was caused by the dysenteric complication, and occurred after the date of the second crisis. In one only of these 29 cases was the patient made out to have been the subject of a former attack of jaundice; he presented the first degree, and a slighter return in the relapse; he had no enlargement of the liver nor unusual pain. Pain and tenderness, in addition to the usual degree, and requiring the local abstraction of blood, existed in 6 of the 29 cases, and in 4 of these the liver was very perceptibly enlarged.

Our cases do not furnish sufficiently extensive or precise returns on the state of the spleen; we therefore abstain from making any remarks as to the condition of this organ.

*Symptoms referable to the Morbid States of the Respiratory System.*—The derangements in the functions of these organs are mostly referable to the accidental complications; and will be best considered when we come to this division of the subject.

From an early stage of the attack, there was, especially in the more acute cases, a greater or less degree of hurry in the respiration, in some cases being as frequent as 50 in the minute, without any affection of the lungs. Occasionally, the respiratory acts were impeded by stitches of the sides, also by catching connected with the epigastric pain.

#### SYMPTOMS REFERABLE TO THE MORBID STATES OF THE SKIN.

The state of the skin was important, in so far as it afforded the critical discharge which formed such a marked feature in this fever. The cases on which this report is founded did not afford one well-marked exception to the improvement being preceded by the critical sweat. (*See phenomena of the first crisis.*)

*Eruption.*—This does not appear to constitute a symptom of any importance in this form of fever.

*Petechial Spots and Blotches*, from the size of a pin-head to two or three lines in diameter, were met with, but with no great frequency. This eruption appeared to be connected rather with the external circumstances of the patients than with the disease itself, and occurred in persons who were admitted late in the attack, and who had been previously confined in close ill-ventilated houses. In many cases there appeared reason to believe that these spots were connected with flea-bites, though the greater than usual extent of the ecchymoses and the obscurity of the punctum made it difficult to decide this; in some cases, they were undoubtedly spontaneous. No unusual severity nor malignancy of the disease existed in the cases which presented these spots.

*Maculæ.*—The macular eruption was observed only in one case, although most diligently sought for in all. The particulars

of this solitary case were as follows:—The patient was a previously healthy lad of seventeen; the symptoms of the fever were mild. On the 6th day there was observed an eruption of bright rose-coloured maculæ, strictly confined to the extremities, particularly to the buttocks, shoulders, and elbows; the hands, wrists, feet, and ankles in particular being covered by a profuse eruption, which was confluent in these situations, but became gradually and rapidly more rare and scattered away from the extremity of the limbs, and ceased altogether within three or four inches of the joints. The colour of the eruption disappeared under pressure; pulse 100; he had no complaint of pains. On the following day, the eruption had faded on the hands and legs, but was more extensively diffused on the nates and arms, where the rash was now confluent, and in blotches, and of a bright colour. On the back also there were on this day (the 7th) a few scattered spots; pulse 84. On the ninth day of the disease the eruption had faded. The first crisis was not so abrupt and distinct as usual, and the relapse occurred on the sixteenth day. The relapse, with the exception of a slight looseness of the bowels, presented no unusual symptom.

The character of this eruption is different not only from the eruption observed in typhus, but also from that described by others as occurring in the present disease. The limits of this report prevent me from noticing this subject farther than merely to state, with regard to our patient, that his was not an eruption such as we are led to expect in febrile diseases; and that we may therefore disconnect it altogether from his attack of fever.

*Vesiculæ.*—Sudamina occurred, but not frequently, and generally about the time of a crisis. They were not observed in more than 12 cases, and did not afford any special indication.

#### SYMPTOMS REFERABLE TO THE MORBID STATES OF THE UTERINE SYSTEM.

The functions of the uterus have been supposed to be very prone to disorder in this fever. The catamenial discharge occurred in 12 of our 93 female cases. All of these did well; in one, the discharge was excessive; in one, it was suddenly checked after a few hours' continuance; and in one, there was much talkative delirium with excitement.

*Abortion.*—Only 3 of our female cases were pregnant; of these 2 miscarried. Both patients had previously enjoyed good health; they were about 25 years old, and were above seven months gone in pregnancy. One miscarried in the primary attack, on the fifth day. She subsequently became affected with jaundice and enlargement of the liver; she relapsed on the twelfth day, and ultimately did well; her child lived about twelve hours. The other case miscarried just before the second crisis; she had repeated attacks of uterine action and pain, re-

lieved by large opiates, both in the primary attack and in the relapse; subsequent to her miscarriage she had an attack of diarrhœa, but did well; the fœtus was still-born.

SYMPTOMS REFERABLE TO THE MORBID STATES OF THE  
URINARY SYSTEM.

It was not until after the publication of Dr Henderson's remarks that my attention was particularly directed to the state of the urine; and I find that the amount of this secretion is reported in only 19 of my cases. In 6 of these, the quantity never varied materially from the natural amount.

In 4 cases, the quantity underwent, at different stages of the attack, both *increase* and *decrease*. It may be well to state here, that there were many difficulties in the way of ascertaining carefully the state of the urine during the febrile paroxysms, and that the returns on this part of the subject must be regarded as very imperfect; but the following facts were ascertained. In the 4 cases at present under consideration, the *diminution* took place in the intermission, the relapse, and the convalescence; and in the same cases, the *increase* occurred in the intermission and convalescence. In one of these cases, the quantity continued much below the healthy standard, till the first day of convalescence, when the increased secretion commenced. In the 3 remaining cases, the *diminution* was observed in the intermission, in the relapse, and in the beginning of convalescence, the secretion subsequently increasing; and in one of these 3, *increase* occurred also in the intermission.

In 8 cases, the quantity of urine was diminished to a greater or less degree, but did not, at any stage of the attack, exceed the natural quantity. In these 8 cases, the *decrease* was observed during a febrile paroxysm in only two instances. These two cases, added to the 4 cases in which both *increase* and *decrease* occurred, gives 6 as the number of cases in which diminished excretion was observed during a febrile paroxysm. The symptoms, in one only of the cases with diminished secretion, were such as to give rise to the suspicion of the urea circulating with the blood. Neither the pulse nor respiration were affected, but a state of extreme lethargy existed, approaching to stupor. In this case, the analysis of four ounces of blood failed to discover even a trace of urea. The blood was drawn during the intermission, while the lethargy still existed in its greatest degree.

Increased flow was observed in 5 cases, that is, including the 4 which presented both decreased and increased discharge. The increased discharge existed chiefly in the convalescence, and in 2 cases resulted from the use of diuretics.

*Hæmorrhage.*—In 14 only of the cases did hæmorrhage occur subsequent to admission. In one, it was from the uterus,

was very profuse, and lasted for two days. In the remaining 13 cases, it was from the nose. Many other patients stated that they had had bleeding from the nose previous to admission; but it evidently is impossible to ascertain the frequency of such a symptom, unless the cases come under observation at a much earlier date than occurs in fever hospitals generally.

(To be continued.)

\* \* In the First Part, at page 10, the utterly destitute are stated to have been in the proportion of  $\frac{1}{8}$ th,—read 23 or  $\frac{1}{8}$ th. Of the intemperate 5 are stated to have died—read 6.

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*Surgical Cases.* By JAMES DUNCAN, M.D., Fellow of the Royal Colleges of Surgeons of England and Edinburgh, one of the Surgeons to the Royal Infirmary, Edinburgh.

*Removal of a Coin from the Larynx by Inversion of the Body.*

ON the evening of the 11th January, while A. C. was amusing himself tossing up a shilling and catching it in his mouth, it passed into the larynx. The accident was followed by a violent fit of coughing, attended with great difficulty of breathing. The difficulty of breathing continued for some time, and then gradually passed off, to such an extent that he was able to walk some distance to procure medical advice. The accident happened about half-past nine in the evening, and he was seen by Dr Paterson in about half an hour afterwards. The dyspnœa was then inconsiderable; but occasionally, on change of position, or on making a forcible inspiration, a violent paroxysm supervened. The fauces were carefully examined by Dr P., and a probang passed to ascertain whether or not the coin was lodged in the pharynx. The result of the examination, and the description which the patient gave of his feelings, left no doubt that the foreign body had passed into the larynx, and that it was impacted there. The symptoms being by no means urgent, and not requiring immediate surgical interference, Dr P. brought him to my house about half-past ten P. M. Dr P. was accompanied by Professor Simpson and Drs G. and J. Keith.

So slight was the inconvenience produced by the presence of the foreign body, that the man walked up from Leith without any great difficulty, with the exception of having one or two fits of dyspnœa, brought on by jolts produced by some inequality of the ground. When I saw him, the respiration was perfectly easy, but the voice was considerably affected, being reduced almost to a whisper. He stated, however, that when he inspired forcibly

he felt considerable inconvenience, and that there was then the sensation of the presence of a valvular body in the trachea, impeding the passage of the air. The air-passages were now examined carefully, but not the slightest unusual sound was heard, and no foreign body could be detected on a careful examination of the fauces with the finger and the forceps. The examination of the fauces produced, as it had done previously, considerable dyspnœa, with ejection of the contents of the stomach. The patient, however, always quickly recovered. When the larynx was compressed externally, the patient stated that he was perfectly satisfied that the coin was lodged there, and the part which he pointed out corresponded with the cricoid cartilage. This circumstance and the description which he gave otherwise, which was remarkably distinct, left no doubt on our minds that the shilling was impacted in the larynx. Being satisfied that the body was lodged in the air-passages, the necessity for its removal was obvious. The inversion of the body, which proved ultimately successful in Sir B. Brodie's case, naturally suggested itself to our minds; and I may mention that the same idea had occurred to the patient, who had stated to Dr P. that he believed if he could manage to stand upon his hands so as to bring the head into a depending position, the foreign body would escape. Along with Dr Paterson I had a good deal of hesitation in having recourse to this practice, from a dread that the shilling might be changed in position in such a manner as to produce suffocation. Prof. S., however, expressed a strong desire that the experiment should be tried, and his wish was acceded to, the instruments being at hand so as to operate immediately should circumstances demand it. The patient at once agreed to submit, and that the more readily as the practice accorded with his own preconceived ideas. The mode in which the experiment was performed was somewhat rough, but proved quite effectual. The man was placed with his shoulders against the raised end of a pretty high sofa, and then being seized by three of the most powerful of those present by the loins and thighs, he was rapidly inverted, so as to bring the head into the dependent position, and, after a shake or two, Dr Simpson at the same time moving the larynx rapidly from side to side, the shilling passed into the mouth and fell upon the floor. Not the slightest cough nor dyspnœa was produced, and the patient immediately started up, delighted with the result. He was now perfectly free from uneasiness, and there was a marked change in the character of the voice. He had not the slightest subsequent bad symptom.

As matters turned out, the practice was perfectly successful, and the patient was fortunate in escaping the pain and danger of an operation; but I am not sure that the success which followed should guide the practice in similar cases, at least in those in which the coin is smaller and has descended into the trachea or

bronchus, as in Sir B. Brodie's case. In this case the shilling must have been lodged with its edges in the direction of the longest axis of the rima, in the most favourable position for its escape, and in the one in which it was least likely to be so changed in position as completely to obstruct the passage of the air. Had the coin been a smaller one, and in the trachea or bronchus, the danger of suffocation being produced would have been much increased, and the operation of tracheotomy might then have been required to be performed when the patient was in a state of convulsive agony. On referring to Sir B. Brodie's case, I find that the same experiment was tried, but that it had to be abandoned in consequence of the "violence of the cough produced, and the urgency of the choking sensation," and that it was not until after an opening was made into the trachea so as to act as a safety-valve, and after the attempts to remove the half-sovereign with the forceps had failed, that the surgeons ventured to repeat it. Even, however, had matters turned out as I dreaded in this case, I have no doubt that the trachea could have been opened without any great difficulty, and before any serious consequences had ensued, as it was prominent, and could have been reached with facility.

In the discussion which followed the reading of Mr Brunel's case by Sir B. Brodie, another was referred to, in which a fourpenny-piece had passed into the trachea, and in which the proceeding which proved successful in this instance could not be persevered in in consequence of the "fearful suffocative symptoms."

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## PART II.—REVIEWS.

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*Researches on Phthisis, Anatomical, Pathological, and Therapeutical.* By P. C. A. LOUIS, M.D. Second Edition, translated by WALTER HAYLE WALSH, M.D., Professor of Pathological Anatomy in University College, London.

THE first edition of Louis' Anatomical, Pathological, and Therapeutical Researches on Phthisis was published in the year 1825, eight years after the publication of Laennec's work on Auscultation, and fifteen after the publication of Bayle's Researches. The first edition was faithfully translated by Dr Cowan in 1835. In 1843 a new edition of this work was published at Paris; and of this a translation, the title of which appears at the head of this article, came out a few months ago under the auspices of the Sydenham Society. We take the opportunity offered by the appearance of this new edition of a work which has commanded the lively attention of the profession over Europe, to touch cursorily on the history of what has been done

up to this time towards the elucidation of this the most terrible of the scourges to which civilized man is subjected.

Pulmonary consumption is not a disease of one age or of one climate ; it has been known from the earliest times, and has exhibited from the first the same great features by which it is characterized in our days. In the fewest possible words Celsus thus points out its progress :—"Oritur fere a capite ; inde in pulmonem destillat ; huic exulceratio accedit ; ex hac febricula levis fit, quæ etiam, cum quievit, tamen repetit ; frequens tussis est ; pus etiam excreatur ; interdum cruentum aliquid. Quidquid excreatum est, si in ignem impositum est, mali odoris est : itaque qui de morbo dubitant, hac nota utuntur."—Lib. iii. c. xxii.

It seems mortifying at first sight that we should feel ourselves unable, even at the present day, to go much beyond the description of this disease given by an author who lived at the commencement of the Christian era, or rather before it ; for there is little reason to doubt that the author of the eight books "*De Medicina*" is the same Celsus of whom Horace speaks—

"Quid mihi Celsus agit ; monitus multumque monendus,  
Privatus ut quærat opes," &c.

But for our present purpose this question is altogether immaterial, since our Celsus, whether he be or not the Celsus whom Horace charges with needlessly plundering the Palatian Library, undoubtedly borrowed what he says of phthisis from older authorities, to which we might refer if the time permitted. But there is another light in which this matter may be viewed. Medicine is daily subjected to the reproach of changeableness, of disagreement among its professors, as if it rested on no solid basis of observation, but resulted from the fashion of the age, or from the caprices of a few leading spirits. There are no doubt fashions in medicine, but these run commonly on the less essential points, and sway those chiefly who are least informed in their profession. But can there be any stronger proof that the exact observations of the sensible part of the medical profession give the same results in all ages, than the perfect agreement of what Celsus taught near two thousand years ago, on this and numerous other points, with what is received as the common doctrine of modern medicine in our time ?

This strikes us so forcibly as applicable to some of the questions which agitate the public mind at present in regard to medicine, that we cannot help adding a literal translation of what Celsus says on the treatment of phthisis, as still more perfectly agreeing with modern views :—

"But if the case be more serious and true phthisis be present, relief must be afforded at the very commencement : for that disease, when it has made progress, is not easily subdued. If the strength permit, we should try a long voyage and a change of climate, and the change should be such that the patient may breathe a denser atmosphere than that to which he is accustomed ; for example, from Italy he should go to Alexandria. And at the commencement the constitution for the most part is capable of bearing such an exertion, since the disease commonly arises in the prime of life, or between eighteen and thirty-five years of age," &c. &c.

Galen and Aretæus, who lived within less than two centuries of Celsus, and Aetius, who lived more than five centuries after him, we find attempting nicer distinctions in the application of the name phthisis, without, however, any material deviation. We should suppose from their observations that phthisis had been confounded sometimes with empyema, since they—



Galen and Aretæus in particular—insist on the term *ῥῥον* being confined to signify pus in the chest, and phthisis to denote “abscess of the lung after hemoptysis or chronic cough,” while Aetius defines phthisis, ulceration of the lungs after hemoptysis. But without attempting to follow the distinctions, too often frivolous, or at least founded rather on *a priori* assumptions than on observations, in which the followers of Galen so much delighted, we will merely remark that *ptisic* and *tisic* are not, as is often supposed, abbreviations of *phthisis*, but derived from *ptysis*, a flowing down, in opposition to *anagoge*, a coming up.

Our purpose in this article is less to review a work so long before the profession as Louis' *Researches*, as to touch on as many as possible of the most interesting points in the subject of phthisis, and, drawing our materials from our author and other recent sources, to show as far as our limits allow the progress making in each.

The connexion of hemoptysis with phthisis is one of the most singular features in the history of the disease, and one of the most interesting subjects of inquiry in its pathology. If the state of the fact were merely that bloody expectoration takes place very often in a disease, the very essence of which, in its advanced stage, is a breach of continuity in the substance of the lung communicating with the bronchi, the hemoptysis of phthisis would be one of the most commonplace topics in medicine. But this symptom assumes a very different aspect when we discover that it occurs very often, or at least in two out of every three cases, at an early stage, before breach of continuity has arisen, and very rarely in the advanced stage of the disease, when cavities above the size of the fist may exist in the lung. The rare termination of phthisis by sudden copious hemorrhage is manifestly a kind of accident, by perforation of a considerable vessel; the quantity of blood thrown forth being great, and the death immediate.

The most ancient authorities refer to hemoptysis among the symptoms of phthisis. Thus, not to speak of Hippocrates and Celsus, Galen and Aretæus describe phthisis as abscess of the lung after a hemoptysis or chronic cough, and Aetius as ulceration of the lung after hemoptysis. Avicenna (about the time of the Norman Conquest) refers to hemoptysis among the signs of phthisis, but does not insist on it as essential, and seems to have supposed it to be most remarkable in the termination of the disease. Fernelius and Hieronymus (about the commencement of the Reformation) regard the hemoptysis as an important subject of attention in the history of phthisis, and Fernelius represents it as a subject of debate in his time, whether hemoptysis were or were not an essential symptom of phthisis—a question which he decides in the negative. Coming down to a later period, we find a distinguished English pathologist, Christopher Bennett, called in his book and quoted by continental authors as Christophorus Benedictus, who died shortly before the Restoration, declaring those in the wrong who looked upon hemoptysis as a certain sign of phthisis. Sydenham, who was but a few years younger than Bennett, though he lived thirty-four years longer, appears to have fallen into a mistake respecting the hemoptysis of phthisis—regarding the phthisis preceded by hemoptysis as of a distinct kind, and easily curable in the commencement.

Lieutaud, who died about sixty years ago, describes hemoptysis among the precursory symptoms, without making it essential. Cullen was nine years younger than Lieutaud, and lived to about the same age, so that they

were close contemporaries. Lieutaud does not appear to have been acquainted with Cullen's works, as Cullen was with Lieutaud's. Cullen placed phthisis in his nosology as a sequel of hemoptysis; for which he has been blamed more than enough, when we consider the intimate connexion in the minds of medical men between the two diseases from the earliest times. He expressly asserts, however, that it is a mistake to suppose that hemoptysis is almost necessarily followed by phthisis. In Bayle's work, published in 1810, and which should be regarded as among the earliest belonging to the present era of pathology in phthisis, hemoptysis is distinctly placed among the first symptoms, though its importance as a pathological fact in the disease is hardly recognised. Laennec does not appear to offer any estimate of the place held by hemoptysis among the symptoms of phthisis; he speaks of it under the head of occasional causes, and distinctly states it as, in his opinion, one of the common effects of the progress of tubercle. The section on this subject in the work before us is very instructive.

We quote the following passage as intimating an agreement with the views entertained by some of the earliest observers rather than with those which are of recent date:—

"It is a point of much interest to decide whether hemoptysis preceding cough and expectoration should be considered a harbinger of tubercles, or a symptom disclosing their actual presence. For upwards of fifteen years I have made it an invariable habit to inquire of every patient submitted to my observation, and not affected with tuberculous disease, if they had had spitting of blood at any period of their lives. I have always had an answer in the negative, except from some individuals who had had severe contusion of the chest, or from women whose catamenia had been suddenly suppressed. Further, I have observed some persons who, although they had a certain number of tubercles in the lungs, suffered from no symptom indicative of their presence, or simply laboured under general symptoms; hence, nothing can be more natural than to find pulmonary tubercles giving rise at a certain period of their existence to a single symptom, and among the rest the spitting of blood. For all these reasons, I am of opinion that hemoptysis, if it be somewhat severe, and have not occurred under the exceptional circumstances alluded to, denotes with infinite probability, no matter what have been the period of its occurrence, the actual presence of some tubercles in the lungs. I do not say that it does so with certainty; for several cases, of the correct observation of which no doubt can be entertained, appear to constitute fortunate exceptions to the general rule."

We add the conclusion of the next paragraph: "Unless, then, we determine to set aside altogether the evidence of facts, it is impossible, as it appears to me, not to admit that, with a few, unfortunately too rare exceptions, hemoptysis, when at all severe, denotes tuberculous disease of the lungs."

We must regard the evidence offered in the quotation of the rarity of hemoptysis except in connexion with phthisis as of a very loose character. We have observed the same kind of reasoning in some other parts of M. Louis' writings. We make no doubt that the frequency of hemoptysis unconnected with phthisis may have been overrated. But if we are to have statistics applied to diseases, we must have statistics of a rigorous sort,—we must insist on the inferences being founded, not on negative observations, but on facts of a positive kind.

"The hemorrhage occurring in the course of tuberculous disease," Louis regards as "dependent upon some state of which the precise nature is un-

discovered, having for its indispensable condition the presence of tubercles. The discovery of what that state is, on which the hemoptysis so often attendant on tubercle is dependent, is well worthy of the careful research of pathologists.

And we are disposed to think that a very promising foundation for such an inquiry has been already laid in the investigations of Schroeder van der Kolk respecting the vascular changes around tubercles, followed up by those of M. Natalis Guillot, referred to in the following quotations from our author.

"Since the publication of the first edition of this work, the morbid anatomy of the tuberculized lung has made unquestionable progress, more particularly in respect of its vascular system. It was, no doubt, well known fifteen years past that the ramifications of the pulmonary artery penetrate neither into tubercles properly so called, nor into gray semi-transparent granulations; but our knowledge on this subject has since then advanced. It is, in truth, now established by the inquiries of M. Schroeder van der Kolk, and more especially those of M. Natalis Guillot,\* that the branches of the pulmonary artery stop short at a certain distance, one and a half, two, or two and a half lines [3, 4, or 5 millimètres] from tubercles or gray granulations; and the more these adventitious productions increase in size, the further do the divisions of the artery stop from their perimeter. To such a degree is this true, that when tubercles are of large size, or have given place to cavities, they may be surrounded by a sort of involucrum, ten lines [2 centimètres] broad, into which no ramification of the pulmonary artery makes its way. M. N. Guillot's injections appear to me to render doubt upon this point inadmissible.

"The injections, dissections, and microscopical examinations of this observer likewise show that, during a space of time which is always very limited, the sort of involucrum in question exhibits no trace of vascularity; at the end of that period a few red streaks with tapering extremities are perceived, the largest of them measuring about half a line [1 millimètre] in diameter. These vessels, which are for a certain time perfectly unconnected with the rest of the vascular system, and consequently not the seat of apparent circulation, soon enter into communication with the bronchial arteries, or with those supplying the thoracic parietes. The connexion with these latter vessels is effected by means of the false membranes, so common on the pleural surfaces,—false membranes, themselves the seats of development of vessels, isolated at first, like those of the involucrum surrounding the tubercles, but eventually inosculating with the neighbouring arteries and the vessels of new formation.

"The seat of these vessels is at first, as has been stated, the interspace between the ultimate ramifications of the pulmonary artery and the periphery of the tubercles; but, in proportion as these multiply, enlarge, and soften, the vascular rete spreads in every spot where it has appeared, and ere long an entire lobe, oftentimes a large portion even of the lung, is the seat of this adventitious vascular system, replacing the pulmonary artery, the existence of which vessel ceases to be matter of demonstration. Thus is accomplished, to use the expression of M. Guillot, the great transformation of the circulation, one of the most remarkable phenomena attending the evolution of phthisis.

"The vessels of new formation, which at a certain period of the disease

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\* *L'Expérience*, t. i. p. 545.

become incalculably numerous, stop short, according to M. Guillot's observations, around tubercles, without penetrating into their substance; the case is somewhat different in respect of cavities. In fact, they extend into the prominences on the surface of these, and ramify abundantly in and impress colour upon the bands, so frequently stretched from one point to another of their parietes. And if a portion of cavity be placed under water, after all mucous and purulent matter has been separated from its surface, this surface is seen studded with tufts of new vessels, which, taken together, represent a sort of villous structure as observed with a common lens. Hence, observes the author, it is not only the highly vascular web surrounding cavities with its new circulation that constitutes a striking feature in the anatomy of those excavations, but, further, the terminal tufts which bring the arterial blood, derived from the aortic circulation, into contact with the atmospheric air."

Here we beg our readers to remark, if the evidence is to be trusted, we have an involucre (which may be as much as ten lines broad) which at one stage is non-vascular, and which at a subsequent stage is destined to become highly vascular. And the vessels which are to constitute this high vascularity are to become continuous with the adjacent ramifications of the bronchial arteries. The analogy between this process and the formation of new vessels in a breach of continuity should not be overlooked. To this subject we drew the attention of our readers in our first number, in a review of "The Physiology of Inflammation," by Mr Travers. We there stated the mode in which new vessels after a breach are formed as follows:—"That as stagnation begins to cease in the dilated capillaries, and motion comes to be recovered, separation of the concreted red corpuscles takes place, and oscillations or slight movements backward and forward arise, by which single blood-corpuscles are projected through the ruptured walls of the capillaries into the adjacent concreted lymph; that the tracks thus formed gradually pass into loops and arches by the concurrence of corpuscles projected from different points, which become vessels, and quickly receive files of blood-corpuscles from the adjacent old capillaries, in which the blood is recovering its motion."

If the view here stated can be maintained, we shall be inclined to infer, that the hemoptysis of phthisis is not the result merely of excavation of the lungs, but that it is an accident, or an event, not of essential but of ready occurrence during that part of the progress of tubercle in which, by the formation of new vessels, the bronchial arterial system takes the place of the pulmonary.

We do not insist at present that tubercle has anything to do with inflammation; yet we see no difficulty in believing, till it be disproved, that the mode of formation of new vessels in one case will be the plan on which new vessels will elsewhere be formed. In the mean time we call in question the statement in the above quotation that the vessels in the involucre of tubercles "are for a certain time perfectly unconnected with the rest of the vascular system," and would have our readers believe, what is more probable, that these vessels are formed by the projection of blood-corpuscles into the involucre from the ruptured walls of the adjacent bronchial arteries, as is explained in the above quotation from the review of Mr Travers' work, and more fully in the work reviewed. And we ascribe the hemorrhage attendant on the development of tubercle, till new pathological investigations shall prove us to be in error, to the red corpuscles being poured forth in mass at this time by an accidental excess of momen-

tum, instead of issuing in single files through the sides of the vessels which are ruptured by an express provision in the animal economy, subservient to the formation of new vessels. If any excess of blood be poured forth, it is manifest it must enter the cellular tissue, or the air-cells immediately adjacent to the involucre of the tubercle, which is in progress of becoming vascular.

We are quite aware that this is not the only view that can be taken of the mode in which new vessels form ; but it embraces all the essential attendant phenomena, and enables us to state, with the least difficulty, what we believe to be a very important step in the progress of our knowledge, the close connexion between hemoptysis and the origin and progress of tubercle.\*

Two or three of the questions of interest to be referred to come under the etiology of phthisis. The part of M. Louis' work devoted to etiology suggests the most discouraging views respecting the supposed knowledge of this kind collected in past times in regard to phthisis. The idea that phthisis prevails chiefly between the ages of fifteen or eighteen, and thirty or thirty-five, dates from the time of Hippocrates. It is repeated by Celsus, Galen, Aretæus, Avicenna, and in short by every author up to the most recent date. The popular persuasion in this country still sides with the ancient belief, notwithstanding the attempts of pathologists to show that death by phthisis is as frequent, if not more frequent, below fifteen and after forty as between these ages.

In all cases of discrepancy of this kind, it is proper, before giving an opinion in favour of either side of the dispute, to ascertain whether the point or points which the one party affirms be exactly the same as what the other party denies.

Now, the ancient authorities judged of the presence of phthisis almost exclusively by the symptoms—they had not the advantage of inspecting the body after death ; the modern authorities who contradict their statement, make up their returns by the aid of an inspection after death of hospital cases. The ancient authorities, then, seem entitled to have their statement placed in this form ; in our private practice, we have seen many persons cut off by a chronic disease, lasting from six months to one or two years, marked by cough, hemoptysis, purulent expectoration, progressive emaciation, hectic fever ; and such cases have occurred chiefly between fifteen or eighteen, and thirty-five or forty years of age. Now it is quite possible that this may be true as respects private practice in the orders of society above indigence and the necessity for daily labour,—and yet that what modern hospital authorities affirm is also true, namely, that dissection in public hospitals shows tubercles in the lungs in patients of almost every age ; and if both statements be true, it is of much importance to the complete elucidation of the subject, that the one should not be permitted to displace the other, but that both should stand as parts of the ascertained history of phthisis.

It is at first sight surprising, that the older authorities, who had not the advantage of inspection after death to any material extent, should be the party to circumscribe the age of phthisis ; for they may be justly suspected of having at times confounded with true tubercular phthisis diseases which resemble it, but which are not limited to one period of life, such as empyema, &c. And this seems to show, that there is a form of tubercular

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\* For the opposite view on the subject of new vessels, see Bennett, *Treatise on Inflammation as a Process of Anormal Nutrition*.

phthisis so distinctly marked out by the course which it runs, whether that be longer or shorter, that it was seldom of old mistaken for other diseases, or other diseases for it, even without the modern aids of auscultation and pathological inspection, and that this disease occurs chiefly between fifteen and forty years of age.

Tubercles, no doubt, are frequent in the lungs during childhood—from the period of dentition onwards; yet it cannot be said, even when children die from the effects of tubercles, that the disease puts on the marked form of phthisis. It may be quite correct, pathologically, to say there is no such disease as *tabes mesenterica*; that the cases ranked under that name are in fact cases of true tuberculous phthisis occurring at an early age; and that a tubercular state of the mesenteric glands in phthisis is not peculiar to childhood. Yet it cannot be denied, that in the cases hitherto so named, the signs of abdominal affection are at first, at least, more marked than those of the thoracic disease, and hence, that the disease puts on a different aspect from what we must regard as the typical form of phthisis. Moreover, we think it still requires proof, whether the affection of the lungs, or that of the mesenteric glands, be the first to develop itself in such cases as have been hitherto termed *tabes mesenterica*. Nor shall we admit the necessity for declaring all such cases to be tubercular phthisis, if it be proved that the disease first arises in the mesenteric glands. We think it will be found that in children disposed to tubercles, if hectic fever be produced from whatever cause, tubercles will be prematurely developed, and perhaps invariably in the lungs before death.

It would be a curious subject of inquiry if the increased frequency of fatal tuberculous diseases before puberty be not the result of the diminished mortality among children at an early age—for if there be a certain proportion of children annually saved, that owing to their extreme delicacy would have been cut off by slight ailments, it is likely enough that many of these may be carried off at a somewhat later age by the production of tubercles.

Again, it seems probable that many of the artisans who, after forty years of age, are cut off by tubercles, would have escaped but for the unhealthy nature of their occupation; hence, as these occupations have become much multiplied in recent times, we must not, in judging of the accuracy of the old statement, try it by a state of things which had no existence at the time it arose.

It is a matter of the greatest importance to determine how far phthisis is connected with previous inflammatory affections of the chest, as peripneumonia, pleuritis, bronchitis. Louis, after stating a good deal of evidence on these points, sums up with the following passage:—"It is obvious that no mere arguments, however specious, can henceforth warrant the idea that pulmonary tubercles are the result of chronic inflammation of the bronchi, the tissue of the lung, or the pleura; the proposition I have stated cannot be overturned except by a series of facts more numerous than those I have collected, and proving that the proportions existing in my cases were the effect of chance."

Notwithstanding this evidence, strong as it is in appearance, we are firmly of opinion that it should not operate in the least towards a change in this country of those precepts of practice which rest on an opposite persuasion. The opposite persuasion to which we refer is universal in the sensible part of the profession, namely, that in this country every inflammatory affection of the chest, however slight, threatens to increase the tendency to phthisis in those already disposed to it; and therefore, that

to every such affection in such persons an attention in the treatment should be enforced, which would not be submitted to in ordinary cases of the same slight description.

We have no disposition to controvert the inferences made by Louis, provided he confines those inferences to pathology, and does not yet ask us to make them a ground for changes in practice. The case stands thus. Louis, as a pathologist, finds a persuasion existing as to the dependence or connexion of tubercles with previous inflammation within the chest; and on scrutinizing the evidence within his reach at the time in favour of this persuasion, pronounces it inadequate to establish the conclusion. But the whole evidence on which the rise of this persuasion depended is not, and cannot, be before him. The case may be that of the gold and silver shield. The practical man's course here admits of no doubt. The practice which he follows is safe—it might be unsafe to change it: he is in quite the opposite predicament from the pathologist: it is the pathologist's duty to admit nothing as proved which rests on inadequate evidence—it is the duty of the practical man to abandon no safe usage as long as there is the slightest possibility of its being necessary for the patient's safety.

This subject we shall conclude with a quotation from the recent work of our Professor of Practice of Medicine, who is alike skilled in pathology and in the application of the precepts of medicine to practice.

“Without recurring to the question as to the *mode* of connexion of inflammation of the lungs with tubercles, we next state the *fact*, that all the indications, general and local, of bronchitis, or of a sub-acute or somewhat chronic peripneumony, affecting chiefly the upper lobes of the lungs, are very often found, in persons who have the predisposition to scrofulous disease, in connexion with scrofulous tubercles in these parts of the lungs, either previously existing, or deposited in consequence of these inflammations, or both; and that thus phthisis pulmonalis very frequently appears, in practice, as a consequence of these inflammatory diseases, usually, as might be expected from what was stated at p. 201-202, of repeated attacks of them in their milder and more chronic form; and that attacks of ‘intercurrent inflammation’ form part of its usual history, and are indicated by the usual appearances on dissection. We admit, at the same time, that phthisis sometimes shows itself and makes progress (chiefly in those most strongly predisposed), without any indications of inflammation preceding or attending it.”\*

With all the devotion shown by pathologists, since the commencement of this century, to the investigation of tubercle, there is still room for much improvement.

The question so much agitated at one time, whether tubercle be the result of inflammatory action, or of diseased nutrition, or what is the same thing with some, of cachetic origin, is in effect a mere verbal dispute. It is manifest that at one period pathologists referred almost every morbid alteration of tissue, and every new development, to inflammatory action. It was the only creative power within the living system to which they could attach any intelligible idea. The introduction of the terms diseased nutrition and morbid secretion of solid substance, as applicable to what had been regarded previously as organic changes originating in inflammation, was a step, not of progress in pathology, but of preparation for progress, by marking out the boundaries of extensive fields to be explored, which had hitherto presented the appearance of one uniform region. As respects

\* Alison's Outlines of Pathology and Practice of Medicine, p. 284.

tubercle, then, the great step that has been made is our seeing that, while there is room for a distinction between slow inflammatory action, perverted nutrition, and morbid secretion in the solid form, as general terms of pathology, the question is already limited to determining under which of these heads tubercle must fall; and were all the essential differences between these three modes of action in pathology ascertained with precision, then should we be on the point of bearing down all difficulties in settling the nature of tubercle. As it is, we must proceed by a slow process,—we have these general pathological actions to reduce to more complete laws, and the particular history of the varieties of tubercle to follow out with greater accuracy, before we can say with intelligence that tubercle results from one or another of these several acts. Till then, to pronounce dogmatically on the subject, or to insist that the origin of tubercle shall be exclusively referred to one or another of these acts, must necessarily be to engage in unprofitable verbal disputation.

We have no design, however, of denying, that for the purposes of further investigation into the nature and history of tubercle, it is for the present best regarded as a morbid secretion of solid matter, or of fluid matter which quickly becomes solid. At the same time, if we could believe with Laennec that tubercle, after its secretion, grows by intussusception, and not by accretion, we should feel obliged to pronounce it to be rather a process of perverted nutrition. M. Louis makes a remark of much importance towards the elucidation of the history and theory of tubercles, namely, that the contradictions of different authorities on this subject chiefly arise from tubercles having been studied with minuteness almost exclusively in the lungs, so that no sufficient estimate can be formed of how much of the history, in any particular case, should be considered as belonging to tubercle in general, how much to the peculiarities of the tissue in which it has been observed. The necessity of extending our minute observations of tubercle to the tissues in general in which it occurs, derives illustration from the quotation made above, respecting the views of M. N. Guillot. In short, it is necessary we should know whether there be any vascular changes around tubercles in the organs in general, which correspond to the singular substitution of a bronchial circulation for a pulmonary around the tubercles of the lung.

Though, according to Guillot, the new ramifications of the bronchial arteries are of almost incredible number, and are dispersed in tufts on the interior surface of tubercular excavations; yet there is no appearance of the tubercular mass itself being at any time pierced by vessels. This absence of vessels at all stages is plainly the foundation of the view which makes it an extravascular or secreted substance. In what Laennec terms the infiltrated tubercle, an appearance of vessels is often discoverable; but these vessels are plainly not in the tubercular substance itself, but in organized tissues interposed between the infiltrated matter. Such tubercles are better termed multiple, while those which are isolated are termed simple; and these two kinds probably will include all the proper varieties of tubercles.\*

On the subject of the semi-transparent gray granulations, Louis still continues to hold much the same views as Laennec. On a subject of so much importance, we will make a large quotation:—

“Tubercles, as is well known, are tumours of yellowish white colour,

\* Lombard, *Essai sur les Tubercules*, p. 8.



of dull aspect, free from glossiness, and of variable consistence;—tumours which soften after a certain time, are evacuated into the bronchi, and leave cavities of variable size in their room.

“As observed by myself, they were almost always more numerous, larger, and more advanced in development at the apex than the base of the lungs; among the cases analyzed in this work—one hundred and twenty-three in number—two only furnish exceptions to this rule. (Case xxxvii.)

“Associated with these tubercles appeared productions of a very different aspect,—small bodies, more or less rounded in shape, homogeneous, glossy, of rather marked consistence, varying in size from that of a pea to that of a millet-seed, and known by the name of the gray semi-transparent granulation.

“These granulations constitute, it would follow from the admirable researches of Laennec, the first stage of tubercles,—a stage through which the latter must necessarily pass before acquiring their own peculiar characters. Like tubercles, I have found these bodies of larger size and in greater numbers at the apex than the base of the lungs, and, unless when pervading the entire mass of those organs, limited to their apices.

“At a certain period of their existence the productions in question exhibited a yellow opaque spot at the centre, and this spot was larger in proportion as the granulations were themselves closer to the apices of the lungs; in such manner that when these organs were examined from below upwards, there were commonly found in regular order gray semi-transparent granulations, granulations of opaline aspect and yellowish tint in their interior, and lastly, granulations of a yellowish white hue, throughout their entire substance,—in other words, completely tuberculous. The latter were generally the only species met with at the apices.

“In the great majority of instances, tubercles and gray semi-transparent granulations coexisted in the same organs. I have in truth met with but one case in which the former were present without the latter, and but five examples of the deposition of the gray granulation without tubercle. In these latter instances, too, some of the granulations had already acquired slight opacity and yellowish tint in the centre.

“These facts appear to me to establish incontestably the transformation of the gray semi-transparent granulation into tuberculous matter.

“The granulations, though usually scattered, were in many cases collected into small groups, or even formed masses of irregular form and variable size.

“They were usually placed at some distance from the pleura; but sometimes (in about one-third of the bodies examined) were not less numerous immediately underneath that membrane than in the deeply seated parts of the organ. I have even met with one case in which, although the lung was perfectly free from adhesions, they existed in greater abundance at its surface than elsewhere. (Case xi.) This mode of deposition of the granulations rendered the outline of the lungs uneven. Converted into tuberculous matter, and subsequently softened, they terminated in abscesses forming prominences on the surface,—abscesses which sometimes burst into the cavity of pleura, and then occasion a series of symptoms, to be enumerated in the chapter descriptive of Perforation of the Lungs.

"In a fair proportion of cases the natural transparency and delicacy of the pleura were unaltered opposite these little abscesses; and hence the latter, on first sight, resembled a hugely dilated vesicle much more closely than a small tuberculous cavity.

"The time necessarily elapsing between the first deposition of the gray granulation and its enlargement to the size of a small pea (the bulk most commonly observed), is without doubt extremely variable, and almost always incapable of determination. Nevertheless some cases of acute phthisis appear to indicate that their development is occasionally extremely rapid, and that they may acquire the dimensions in question within the space of two or three weeks. (Case xxxviii.) On the other hand, a considerable number of cases justify the notion that, long after their origin, they may still be of very small size. Thus, I have met with several individuals who had laboured under continual cough and been subject to attacks of hemoptysis for many years, &c.,—persons whose lungs presented no other alteration of their parenchymatous structure than gray granulations of the bulk mentioned, or even considerably smaller.

"The gray semi-transparent matter also exhibited itself frequently under another aspect—that of shapeless masses, occasionally of considerable size, as large, for example, as a hen's egg and upwards. (Case lxi.) As in the cases where it had assumed the globular form, it was glossy, homogeneous, and destitute of distinct structure. In several instances a variable number of miliary spots, of yellowish-white colour and dull aspect—in fact, essentially tuberculous—were discernible in the midst of the masses referred to. In others the transformation was almost complete, and a few particles only of gray matter appeared in the midst of a mass of tuberculous substance.

"Thus, whether the gray matter presented itself under the form of granulations or of irregular masses which had attained more or less considerable bulk, it sooner or later underwent the tuberculous transformation.

"I have, further, detected the gray matter in both its principal forms in other organs besides the lungs, and in them also found it susceptible of the tuberculous transformation. In illustration of this fact I may refer to the subject of Case vii.: in this, individual masses of gray semi-transparent matter were contained in the midst of a large quantity of tuberculous deposit accumulated in the great omentum and mesocolon. Is it not probable that the matter in question would eventually have been converted into tubercle?

"In corroboration of a remark made by Laennec, I may observe that vessels were either not discoverable at all, or but rarely discoverable in the masses of gray matter; of this I have satisfied myself several times by means of injection. (Case lxi.)

"When the tuberculous cavities observed were even of tolerable extent, they were almost invariably surrounded by a certain quantity of this same gray matter: in many cases too, when there existed opaline yellowish granulations, it enclosed these on all sides, uniting them into a mass of variable compactness. Under these circumstances I observed it in three cases under the singular form of zones. There were three of these placed horizontally and parallel to each other; they occupied the whole depth of the lungs, were an inch and two lines [3 centimètres] broad, and separated from each other by a stratum of pulmonary tissue of the same dimensions. (Case xlv.)

"Like the granulations, the gray matter accumulated in masses was

frequently placed near the surface of the lungs, immediately underneath the pleura. (Cases XL. LII.)"

Bayle regarded the gray semi-transparent granulations of the lungs as distinct from tubercles, making a separate species of phthisis under the name of "phthisie granuleuse." These granulations and tubercles are, however, commonly associated—so much so, that Louis met with only two cases of tubercles without gray granulations, and only five cases of granulations without tubercles. As Laennec regarded these granulations as the first stage of tubercles, so Baron, following Jenner we believe, regarded the first stage of tubercles as vesicular, or of the nature of a serous cyst. And this opinion, it appears, has been taken up by some other inquirers, as by Dupuy, Veterinary Professor at Alfort. Andral remarks, on this opinion, that such serous cysts, though rarely associated with tubercles in man, are found along with them in other animals, and in particular in the hog, in which animal this association constitutes the peculiar disease termed measles—and here the vesicles even outnumber the tubercles. Thus it may be supposed that tubercles and granulations, though totally distinct, may be associated as frequently together in the lungs of man as the vesicles and tubercles in the measles of the hog. Andral gives his own opinion that these granules are the effects of partial pneumonias, and that there is nothing extraordinary in the appearance of tubercles within them, since "tubercle has an especial tendency to develop itself wherever there exists a chronic process of irritation." In the solution of this difficulty, as of the others which beset the subject of tubercles, it is surprising how little aid the microscope has afforded.

With regard to the softening of tubercles, there are still many points to be cleared up. The view taken by Lombard is highly ingenious. Though adopted by Andral, it does not appear to be noticed by Louis. Andral says, "Each particle of tuberculous matter, acting like a foreign body on the tissues with which it is in contact, produces in each corresponding point of these tissues a secretion of pus, which mechanically effects the division of the tubercle into clots, and which occurs here in the same manner as it does in all cases where a foreign body has been lodged for any time in some part of the living system." This view, Andral says, he derived from Lombard, whose short essay he highly commends. Though Lombard's view of the softening of tubercle was adopted by the late Dr Hope, his essay does not appear to be much known in this country. It is very short, consisting of no more than 53 or 54 quarto pages, and was published at Paris in 1827. He tells us that it was begun at Edinburgh in 1823, in conjunction with his friend Dr W. Becker, then studying here, and that a first memoir was communicated by them jointly to the Royal Medical Society. For some of his views he acknowledges his obligations to Dr Becker. At the end of this essay there is a short summary of conclusions on tubercles, with a translation of which, as bearing pointedly on this part of our subject, we propose to conclude this article.

#### *Conclusions regarding Tubercles.*

1. Tubercle is a secreted substance, deposited under the form of yellowish opaque grains. It grows by superposition.
2. There are two species of tubercles, the simple and the multiple; the latter forms by the aggregation of several simple tubercles. It contains organized parts within.
3. Granulations are a form of chronic pneumonia; they do not pass into tubercles.

4. The softening of a tubercle depends on the action of the surrounding living parts.
5. Simple tubercle never softens from the centre to the circumference.
6. The multiple tubercle often softens from the centre to the circumference.
7. The most frequent seat of tubercle is the cellular tissue. Tubercle is sometimes to be seen in the lymphatic vessels. Tubercle does not occur on the free surface of mucous membrane so long as it is entire.
8. Tubercles are often hereditary.
9. The lymphatic and sanguineo-nervous temperaments are predisposed to tubercles.
10. Infants and females are most subject to tubercular diseases.
11. Inflammation is an exciting cause of tubercles.
12. The same is to be said of passive congestions, of over-activity or deficient activity of an organ, and probably also of *alterations in the fluids*.
13. No certain sign of the rise of tubercles is known.
14. The hectic fever which occurs in tubercular diseases results from the act of elimination.
15. To prevent the tendency to tubercles, we must counteract the influence of hereditary disposition, of temperament, of age, of sex.
16. In persons with predisposition to tubercles, inflammations should be guarded against with the greatest care, or arrested as promptly as possible.
17. The same rules apply to passive congestions.
18. The absorption of tubercles is very probable.
19. To obtain the cure of tuberculous ulcerations we must prevent the formation of new tubercles, and confine the work of elimination within certain limits.
20. Tubercles may remain long in the organs in a latent state; to obtain this result we must seek to arrest the process of elimination by antiphlogistic means, and above all by revulsives.

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*Report of the Obstetric Practice, University College Hospital.* By EDWARD W. MURPHY, A.M., M.D., Prof. of Midwifery in University College, London.

WE have been favoured by Professor Murphy with a copy of his Report of the Obstetric Practice of University College Hospital, London, on which we propose to offer a few observations. We consider it a duty which every man placed in situations of public trust owes to the medical community, to furnish them, from time to time, with the results of his experience; and we think that the guardians of public institutions ought to render it imperative on their officers, in their respective departments, to communicate what may come under their observation, by which incalculable advantages must result to practitioners themselves as well as their patients. Considering his slender means, the particulars of 467 deliveries only, during a period of two years, being furnished, the professor is certainly entitled to our meed of praise for his powers of observation. In as far as regards the parent, the practice has been eminently successful,—two patients only having died of puerperal disease. To the fetus, the result has, on the whole, been likewise very favourable,—the total number of deaths, from all causes, known or unknown, being nineteen.

In 462 labours, the following were the presentations; natural in 447 instances, face in 7, feet in 6, and the arm and shoulder in 2; the funis prolapsed in 2 cases, forceps was used in 4, perforation was resorted to in 2, and version in 2. In 467 deliveries, there were 248 males and 222 females; there being 3 twin cases among the latter.

The professor's observations on the application of instruments, more especially forceps, are given in a tone which characterizes the man of experience, and with that caution which we hope will deter young operators from the premature and precipitate employment of these resources,—a practice which we have known to be followed by melancholy consequences. With the following precept by Dr Murphy we cannot however coincide :—  
 “As a general rule, the forceps is useless if there be not sufficient space to feel the ear. The chances are greatly against saving the child, and equally in favour of doing injury to the soft parts. To this general rule there may be, it is true, a few rare exceptions, but not sufficient to disturb the principle.” The professor must know, as well as any man living, that we are occasionally obliged to apply forceps where the space is not sufficient to enable the practitioner to advance a finger to reach an ear, and that it is not at all necessary for the blades of an instrument to be so thick as the principle in question would imply. Dr Murphy's precaution is a very proper one for those who are comparatively unacquainted with the mode of applying this instrument ; but so sweeping a conclusion must astonish the experienced practitioner, who, judging from the principle upon which we have ourselves been accustomed to act for many years, rarely thinks it necessary to feel an ear preparatory to the application of forceps, when he can trace the limbs of the lambdoidal suture, which alone will enable the operator to guide the blades to the points on which they should be placed. In a record, at the date of this communication, of 157 forceps cases in which we have been concerned, 4 children only were stillborn under the use of this instrument, or died soon after birth ; and 3 of the mothers died of puerperal disease,—the delivery of one of them being extremely easy. This statement we think quite sufficient to disprove the conclusions of the professor, who, we hope, has rather magnified the dangers attendant on the application of forceps merely to deter our younger brethren from their unnecessary use.

Some interesting examples of protracted gestation are contained in the report, which should have been noticed at an earlier stage of our observations. To these cases we do not attach so much importance as if they had occurred in respectable society ; for, generally, females among the humbler classes not only take no note of time, but they also delight in exaggeration : and because, from such a variety of circumstances, the catamenia may be suspended antecedently to impregnation.

We sincerely trust that the professor will continue, as his avocations may permit, to furnish his brethren with reports of his practical observations ; for we cannot but anticipate substantial benefits from the contributions of Dr Murphy, than whom no individual in this department of the profession has enjoyed better opportunities for maturing his mind to discharge the duties of the responsible position which he now occupies.

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## PART III.—PERISCOPE.

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### SURGERY.

*Severe Compound Dislocation of the Elbow-joint successfully Treated.* By  
 JAMES PRIOR, Deputy-Inspector of Hospitals and Fleets.

WE extract the following case as well illustrative of the satisfactory results consequent upon caution and the not being too ready in using the knife.

We are persuaded that nine surgeons out of ten would in the instance before us have resorted to immediate amputation.

"A labourer in the steam-boiler factory in the royal dockyard at Woolwich, when winding up a weight of some tons by means of a crane, the chain supporting the weight suddenly broke, the handle of the machine was made to revolve violently the reverse way by the falling body, and in doing so struck him unexpectedly on the under side of the left arm, at the elbow-joint, producing so severe an injury that he was brought at once to the naval hospital, with a view to ulterior measures.

"On examining it, about an hour after the accident, I found a large wound on the under surface of the joint, occasioning a general disconnexion of its parts—muscular and otherwise—excepting immediately in front. All the ligaments also were obviously torn asunder; the heads of the radius and ulna were driven wholly from their situations, upward and forward, on the humerus; the condyles of the latter bone, and part of its shaft, to the extent of two and a half or three inches, projected behind, from the wound, at nearly a right angle with the forearm, and so thoroughly denuded of all ligaments or muscular attachments, as to draw from one of the gentlemen who had first seen it, the observation, that he could scarcely have cleaned it so thoroughly by a quarter of an hour's work with the scalpel. The head of the radius, I was informed, had been at first partially exposed, and the olecranon was said to be fractured. Hemorrhage had now pretty well ceased; considerable portions of lacerated muscle hung from the wound. Altogether, the injury seemed so formidable, and so little short of actual dismemberment, that I was not unprepared for the opinion of four medical officers, who had previously seen it, that the limb could not be saved.

"The first object being to reduce the dislocation, in order to see what further remedial means might be used, the extreme severance of parts enabled me to accomplish this without difficulty or assistance. No enlargement of the wound was necessary to return the protruding humerus to its natural position; the muscular substance was likewise replaced; the brachial artery and nerves of the arm seemed uninjured; and two fingers introduced into the joint could trace no fracture, though the olecranon had at first been considered broken. With the bones replaced as nearly as possible in their natural positions, I found sufficient integument, though torn, to cover them, by nice adaptation; and this decided me on attempting the preservation of the limb. The parts were accordingly adjusted, the skin around the wound drawn as closely together as possible, and the limb laid upon a padded splint."—*Lancet*, No. 13, 1844.

It is unnecessary for us to follow the daily report of the case: suffice it to observe, that, for the first eight days, the issue of the attempt appeared very doubtful; at the end of this time, however, in consequence of the highly judicious manner in which the case was treated, symptoms of improvement showed themselves, then gradually progressed, so that, in little more than six weeks, the patient was able to go about, and about three months after the receipt of the injury, the affected limb was sufficiently strong that he could swing a weight of seven pounds, and had even attempted one of fourteen. Mr Prior concludes the case with some very excellent remarks on the injuries of bones in general; these we regret our limited space will not allow us to transcribe. The branch of the public service to which Mr Prior belongs should consider itself fortunate in having men who, like him, are both so well qualified and so willing to communicate to the profession those interesting cases which meet their observation.

*Two Cases of Rupture of the Ureter or Pelvis of the Kidney from External Violence.* By EDWARD STANLEY, Surgeon to Bartholomew's Hospital.

"A BOY, aged nine years, was brought to St Bartholomew's Hospital immediately after the occurrence of an injury to the lower part of his body, which, it was stated, had been squeezed between the wheel of a cart and a curb-stone; the immediate consequences were, severe contusion of the soft parts around the pelvis, inability to walk, and great pain in the lower part of the abdomen; he lay helpless, apparently suffering from severe internal injury. Much ecchymosis ensued in the integuments around the pelvis, and extensive suppuration in the subcutaneous cellular tissue, from which several ounces of matter were discharged by puncture near the left sacro-iliac symphysis. By the end of the sixth week, recovery of the injured soft parts around the pelvis had considerably advanced. At this period, my attention was directed to a fulness not before observed on the right side of the abdomen, and on further examination, a circumscribed oblong swelling was recognised through the abdominal parietes, extending from the base of the chest downwards to within a short distance of Poupart's ligament; anteriorly, it terminated abruptly at the linea alba; posteriorly, it could be traced into the lumbar region, but it here presented no distinct boundary; the liver appeared to be pressed upwards by the swelling, so that the right lung did not extend below the sixth rib, the admission of air into it here ceasing in a defined line. Pressure on the swelling gave no pain, but a deep fluctuation in it could be recognised. The urine passed naturally, as it had done throughout, and that there was no distention of the bladder was ascertained by the introduction of a catheter. I could but suppose the swelling to be an abscess, but there was difficulty in adopting this opinion of it from the absence of pain and constitutional derangement. To discover the nature of the swelling, I made a small puncture in it with a lancet, from which a little clear yellow fluid escaped; this was followed by much pain in the abdomen, which yielded to the application of leeches. By this exploratory proceeding, I learned that the fluid was situated immediately beneath the abdominal muscles, and that it was not pus. Three weeks afterwards, the abdominal swelling having become more tense and pointed, I punctured it with a small trochar midway between the last rib and crista of the ilium, and discharged from the opening fifty-one ounces of a clear yellow fluid. Pain in the abdomen followed this puncture, but it yielded as before to the application of leeches. Eleven days afterwards, the swelling having again enlarged, I discharged from it by puncture fifty-eight ounces of a clear yellow fluid. In sixteen days from this puncture, the swelling having again greatly increased, I removed from it sixty-four ounces of fluid. The swelling returned, and having acquired a certain size, it remained stationary, on which account it was not interfered with for nearly three months, when I again punctured it, and discharged seventy-two ounces of fluid of the same characters as before. Three weeks afterwards, I punctured the swelling the sixth and last time, but discharged only six ounces of fluid, and it appeared to me that a larger quantity was not obtained from the existence of some obstacle to the canula fairly entering the cavity in which the fluid was contained. The other parts of the treatment consisted in the repeated application of leeches, in the application, on one occasion, of a large blister to the swelling, and in the use for a considerable time of the ointment of iodide of potassium; but, with the exception of the leeches, which relieved the pain in the abdomen recurring more or less after each

puncture, it is doubtful whether the other measures were of any service. Throughout, the general health had been good, and all the functions of the body appeared to be perfectly performed. From this period the swelling continued without increase or obvious diminution : it still extended from the linea alba into the right lumbar region, and as any further interference by operation or otherwise was now considered inexpedient, I discharged the boy from the hospital nine months after the occurrence of the accident. At several subsequent periods I have seen him in good health, with the abdominal swelling still distinct, but, as we have thought, slowly diminishing, and with less evident fluctuation."

The analysis of the fluid discharged showed it to be unequivocally urine.

"With respect to the source of the effused urine in the case which has been related, in the absence of direct evidence on this point, we may refer to the observation of Mr Taylor, that from the absence of mucus in it, the probable source was high in the urinary apparatus, as at the commencement of the ureter; and with respect to the situation of the fluid, was it within the peritoneal sac, or had it formed for itself a cavity by detaching the peritoneum from the abdominal and lumbar muscles! That the fluid was not within the peritoneal sac seemed to be indicated by the circumscribed character of the swelling, and especially by its abrupt termination at the linea alba, where its further progress would be impeded by the firm connexion of the peritoneum with the abdominal aponeuroses. The circumscribed character of the swelling would not alone determine the situation of the fluid to be on the outside of the peritoneum, for there have been cases recorded wherein the effusion of urine into the peritoneal sac was followed by an abundant deposit of lymph and formation of false membrane, confining the fluid to a portion of the abdominal cavity by the adhesion of the surrounding peritoneal surfaces. Under these circumstances the effused urine formed a circumscribed swelling, and as such was recognised through the walls of the abdomen.\* In this way the case before us cannot be well explained, since there had been no peritoneal inflammation, and the abdominal tumour arose gradually without pain or constitutional derangement."

"The next case which I have to relate occurred in St Bartholomew's Hospital, under the care of Mr Vincent. A woman was admitted immediately after having been knocked down, and, as it was stated, pushed some way before the wheel of a cart. The left femur was found to be broken in its centre, and she was besides much hurt, especially in the right hypochondrium, where pressure gave considerable pain. On the following day there was much febrile disorder, accompanied by severe pain and distention of the abdomen. She was bled from the arm, large applications of leeches were made to the abdomen, and calomel with antimony was freely administered. In a few days the general distention and pain of the abdomen had subsided, but there remained a circumscribed and painful swelling in the right hypochondrium, which it was thought must be connected with the liver. This swelling increased, taking the form of an enlarged liver, and after some days, a feeling of deep fluctuation in it was discovered. The swelling then became stationary in respect to size, but the fluid in it advanced nearer to the abdominal parietes; at the same time the patient suffered occasional shiverings, with paroxysms

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\* Archives Générales, Juin 1834. Dublin Journal, vol. ix.



of pain and throbbing in the swelling, which were relieved by opium. From the progress of the symptoms it was supposed that suppuration had taken place, and that the abscess was probably connected with the liver.

"Mr Vincent accordingly punctured the swelling with a small trochar, when, contrary to expectation, there was discharged through the canula between two and three pints of a straw-coloured urinous-smelling fluid. The patient was much relieved by the operation. Slight tenderness over the whole abdomen ensued, but it gradually subsided. The urine had been throughout passed freely, and in full quantity. In about ten days the fluid had again accumulated in the abdomen so largely as to occasion much distress. A trochar was again passed into the swelling, and about six pints of fluid were discharged of the same characters as before. Much relief was thus afforded, but in a few days the uneasiness and swelling returned as the fluid re-accumulated. From this period she gradually sunk, and died in the tenth week from the receipt of the injury. The fluid obtained from the abdomen was found to be albuminous, and to contain a small quantity of urea, but from the indistinct recognition of the healthy urinary salts in it, a high chemical authority pronounced it not to be urine.

"Upon examination of the body, a large cyst was found on the right side of the abdomen behind the peritoneum, extending upwards to the diaphragm and downwards to the pelvis. The boundaries of this cyst were formed by lymph and thickened cellular tissue; within it was a large quantity of fluid presenting the characters of a mixture of pus and fetid urine. A passage was found extending from the upper part of the cyst into the pelvis of the right kidney. The aperture in the pelvis of the kidney was large and irregular; the appearances were such as might be expected to result from laceration of the membranous structure composing it. The liver presented in its anterior border the marks of a slight laceration of its tissue, which was in progress of healing. The kidneys were slightly granular."—*London Med. Chir. Trans.* vol. xxvii. p. 1.

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*Cystic Goitre, and its Treatment by Iodine Injections.* By M. BOUCHACOURT.

ACCORDING to M. Bouchacourt (in the *Bulletin Général de Thérapeutique*), cystic goitre is owing sometimes to the development of a morbid serous pouch in the midst of the thyroid body; at other times to the suppuration of one of the lymphatic ganglions which are situated around or in the interior of this gland. This anatomical difference, however, is not in his eyes of any great relative importance as to the treatment. When a liquid appears to be contained in this tumour, M. Bouchacourt always prefers to incision, puncture followed by the injection of an irritating liquid. Applying to this particular case a method which has been already so often made use of in the treatment of serous or sero-purulent collections, he employs a solution of iodine, in the proportion of one part of the tincture of iodine to two, three, four, or five parts of water. As may be seen, it is the same method; and they are the same agents as are usually employed for the radical cure of hydrocele. But, in the tumours of the neck, the result has not been so simple as it is, or, to speak more correctly, as it is reputed to have been, after the injection of iodine into the tunica vaginalis. Indeed, in place of this benignity of the symptoms, of this resolution almost without

swelling and without pain, which is said to be the constant sequel of the iodine injection, in the two cases of cysts of the neck related by M. Bouchacourt, the tumour inflamed after the injection, pus formed in its interior, and it had in the end to be given vent to, in one of the patients by incision, in the other by means of the potential cautery. The cure, although it proceeded a little more slowly, was not however less radical in the two cases; and these facts seem to be sufficient to recommend strongly a method which appears to be the only one capable of curing infallibly a disease, against the very great annoyances of which there only exist in medicine useless or dangerous remedies.—*Gazette Médicale*, Nov. 9, 1844.

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*The Reason why the Removal of small Meliceritous Tumours is sometimes rendered fatal; and the Means to avoid these Accidents.*

ACCORDING to researches which M. J. Guérin has made, and of which he will give an account at a future period; he thinks that he has discovered the cause of the fatal termination which is sometimes induced by the removal of small encysted meliceritous tumours, or others of the same kind. These accidents are owing to the cyst being opened during the operation by the instrument, and the matter which it contains getting out into the wound; this matter is deteriorated by contact with the air, and acquires, by a kind of putrefaction of its elements, deleterious properties. The absorption of this substance causes all the bad consequences; it is, as it were, a sort of inoculation of matter of a bad kind; hence the different bad forms of erysipelas which extend from the morbid focus to important organs. There is a way, however, of preventing and of neutralizing these accidents. They are prevented by abstaining, if possible, from opening the cysts, so as to avoid the escape of their contents. If this opening, however, takes place, it is necessary to wash freely the wound with cold water, in order to carry away all the remains of the encysted matter. This precaution possesses also the advantage of favouring an immediate reunion. By means of these precautions, M. Guérin has not in any case seen any bad consequences follow the removal of meliceritous tumours, or other encysted tumours of a like nature.—*Gazette Médicale*, Nov. 23, 1844.

#### PATHOLOGY AND PRACTICE OF MEDICINE.

*On the Presence of Oxalate of Lime in the Urine.* By HENRY BENGE JONES, Licentiate of the Royal College of Physicians, London.

"THE appearance of octohedral crystals in the urine appears first to have been described by M. Vigla. Dr Bird in England, and afterwards M. Donné in France, recognised the very frequent occurrence of such crystals, and by reactions observed by the microscope inferred that these crystals were oxalate of lime."—"The states of the system in which octohedral crystals are seen vary exceedingly. In acute rheumatism and gout, chronic rheumatism, aggravated hypochondriasis and hysteria, and diabetes, I have found such crystals." The chief part of Dr Jones' paper is made up of the minute details of one or two cases. We quote the concluding paragraphs:—

"Octohedral crystals in the urine, and symptoms of a totally different kind, frequently occur together.

"The patient complains of pain in one or both loins, of frequent desire to pass his water, which is sometimes in very small quantity; at other

times so much as to simulate diabetes. There are sudden calls to empty the bladder, and if it is delayed, considerable pain is produced. The urine, when examined, contains only a slight cloud, which does not disappear with heat. In other respects it appears natural. When examined with the microscope, the cloud is seen to consist sometimes entirely of octohedral crystals; more frequently of these crystals mixed with globules of mucus, and sometimes with large and small scales of epithelium. These cases, in consequence of the frequent desire to make water, usually fall under the notice of the surgeon. From Mr Cutler I have frequently received such water for examination.

"The above symptoms closely resemble those which are sometimes produced by a small calculus in the kidney. And in one case which I saw, they suddenly ceased after sharp pain in the course of the right ureter, and slight retraction of the testicle, which lasted only a few seconds. Innumerable white octohedral crystals united together were found in the water afterwards. To the naked eye, this mass of crystals was scarcely visible. Such concretions are very easily overlooked from their transparent whiteness. These crystals, from their great insolubility, and the consequent affinity of oxalic acid for lime, are far more apt to be formed in the kidney than crystals of uric acid. For urate of ammonia requires to be some time in contact with a dilute acid, before it assumes the sharp crystalline form, which is well described as lancet-shaped. Thus, in gout, the urine may not unfrequently be passed from the bladder without having crystallized: no trace of uric acid crystals, if the examination is immediately made, can be seen with the microscope; but after the lapse of some hours, multitudes of the well-known crystals appear.

"The treatment which proved most beneficial in these cases of irritation was that which improved the general health. In two of Mr Cutler's patients the symptoms followed mental anxiety. Medicines had little effect, but as the causes for anxiety disappeared, the symptoms ceased."—*London Med. Chir. Trans.*, vol. xxvii. p. 146.

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*On the State in which Uric Acid exists in the Urine.*

In the same volume of the Medico-Chirurgical Transactions is another paper by Dr B. Jones on the state of uric acid in the urine. This is an elaborate paper, so full of details that we can hardly give an intelligible extract. Berzelius has stated his belief that the solubility of uric acid in the urine, which he regards as existing in the uncombined state, is modified by the presence of other matters in the urine. This view he illustrates in the following manner:—"We know moreover that iodine is more soluble in water which contains common salt, or muriate of ammonia, than it is in distilled water, although we know of no combination of these salts with iodine." Dr Prout, in the last edition of his work, still maintains his own opinion of the combination of uric acid with ammonia in the urine against this new suggestion of Berzelius.

The experiments made by Dr Jones have no very material bearing on the view taken by Berzelius, that uric acid is retained or deposited according to the constitution of the urine at the time; they tend rather to illustrate Dr Prout's opinion that uric acid is combined with ammonia.

The following passages suggest views which, if followed out, may lead

to highly valuable additions to our knowledge of the variations on the urine in diseases :—

“From these experiments, it appears that urate of ammonia, when dissolved with about an equal weight of salt, acquires a greater degree of solubility in water, and a difference in appearance from pure urate of ammonia. The appearance is identical with that deposit which can be obtained from urine, and the solubility is more than double the solubility in distilled water.

“The experiments which I have made may give a further insight into the various causes of that frequent deposit of urate of ammonia which occurs in health. A small quantity of salt increases the solubility of this substance; the muriate, the sulphate, and the acetate of ammonia, lessen the dissolving power of distilled water.”—*London Med. Chir. Trans.*, vol. xxvii. p. 102.

## MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

### *Galvanism as a Remedy for Uterine Hemorrhage.*

IN our last number we made some remarks on a communication in the Provincial Med. Surg. Journal from that experienced practitioner Dr Radford, consulting physician to the Manchester Lying-in Hospital, regarding the application of galvanism with the intention of exciting contractions of the gravid uterus in a state of torpor in consequence of hemorrhage. A subsequent number of the same periodical (December 24, 1844) contains a public lecture on the subject delivered by Dr Radford to his brethren of Manchester; and as this discourse embodies opinions, some of which cannot, we think, be familiar to the generality of the profession, our readers will excuse us for thus formally noticing the lecture in question, and the rather as it furnishes us with valuable observations on a most important set of cases, by a teacher who has for many years been placed in a field for acquiring practical experience in operative midwifery which cannot be surpassed by any in this kingdom.

After noticing the various divisions of hemorrhage, such as accidental and unavoidable, early and late, with flooding after parturition, enumerated by practical writers, the lecturer informs us of the circumstance which induced him to have recourse to galvanism in such cases. “I was consulted by Dr Goodwin in a case of protracted labour where long forceps were required. The lady recovered well, with the exception of not being able to pass her urine. We had recourse to the usual remedies for a fortnight or more, using the catheter twice, sometimes thrice daily, but without the least amendment. Upon the suggestion of Dr Goodwin, we decided upon the application of galvanism, which was undertaken by him, and the result was most gratifying, for the first application proved permanently successful.” The beneficial effects, in this instance, of the agent in question, led Dr R. to conclude that it would also prove highly useful in cases of uterine exhaustion from hemorrhage,—an inference which has since been satisfactorily corroborated in a case of “frightful internal hemorrhage attended with extreme exhaustion,” to which the lecturer was called into consultation.

The lecturer gives the following description of his galvanic apparatus, and of the mode of applying it: “It consists of a battery in a small jar, and a helix with conductors. For the sake of convenience, the latter are connected to the helix by means of long wires covered with an isolating

material. The strength of the shock is regulated by a small contrivance situated on the stand of the helix, by means of which it can be either diminished or increased. One of the conductors, which is applied externally, has a hollow wooden handle, through which passes the wire already alluded to, in order to join a brass stem terminating at its extremity in a base. The other conductor, which is contrived by myself, consists of a strong brass stem, seven inches long, curved to suit the vagina, and covered with a non-conducting material, having a small screw at its distal extremity for attaching to it a silver ball; at its other extremity it is received within an ebony handle, which is hollow, and through which passes a strong brass wire, looped at the end, and connected with the long wires formerly alluded to. This wire is kept disconnected from the brass stem by means of a spiral spring concealed within the ebony handle. The loop is covered with silk, and is intended for the thumb of the operator, when he is bringing the wire into connexion with the stem. When the remedy is applied, the brass ball of the vaginal conductor is to be advanced to the os uteri, and moved about at intervals upon various parts of this organ. At the same time the other conductor must be applied to the abdominal parietes over the fundus uteri. Shocks may be also passed transversely through the uterus by simultaneously applying the conductor on each side of the abdomen. The application should be made at intervals, so as to approximate in its effects, as nearly as possible, the natural pains."

In this lecture Dr R. states his conviction, not only that galvanism "has no evil influence on the life of the child in utero, but that after its birth it is an important means of resuscitation in cases of asphyxia." He also, "from positive trial," speaks confidently of the great value of this agent "in tedious labour, depending upon want of power in the uterus, and where no mechanical obstacle exists;" and he moreover suggests its application where it may be considered "necessary to induce premature labour." However well reconciled we may be to Dr Radford's views respecting the influence of galvanism in re-exciting the contractions of the uterus in cases of general prostration, the result of hemorrhage from the organ, reasoning from analogy, we are by no means satisfied regarding the safety of this powerful agent, in as far as the fœtus in utero is concerned. Dr Radford, as well as every other man extensively engaged in obstetric practice, must have been called to cases in which, from sudden stooping, blows upon the abdomen, and fits of passion, the placenta, from the uterus being suddenly excited, was partially separated, and the fœtus destroyed, even when the gestation had nearly reached its natural termination, and where indeed, from the aspect of the mass after its expulsion, the detachment did not exceed a third of its extent. If this be the result from the causes now stated, and we have seen many such cases, we must, for the present at least, dissent from the talented lecturer in his recommendation of galvanism for the induction of premature labour, where the object is to preserve the life of the fœtus.

In conclusion, we take our leave of Dr Radford, with those sentiments of respect which are due to his high status in the profession and his great practical acquirements; and as we understand that he intends to continue giving occasional lectures on the more important objects of operative midwifery, we are sure that we merely express the sentiments of all our brethren in this department when we say, that we hail those intentions with great satisfaction.

*On Stomatitis Membranosa.* By DR GUEPRATTE.

THIS disease, as observed and described by Bretonneau, is endemic in the Netherlands during the foggy weather from September to April; it is most common among the children of the lower classes, who are unable to procure proper food and clothing sufficient to protect them from the cold. It is almost always situated on the inner surface of the cheek, and the corresponding edge of the tongue, generally on one side only, rarely on both. The disease is characterized by a yellowish or grayish-white, soft, pulpy, false membrane, covering different points of the mucous tunic, which is red, swollen, and painful. Bretonneau recommended the local application of alum, and concentrated hydrochloric acid; the first of these is of little value, but the latter is highly efficacious; as, however, it injures the teeth, it cannot be used for a long period. Dr Guépratte recommends the following powder:—

R. Pulv. cort. cinchon. ʒj.  
       — calcis chlorin.,  
       — carbon. ligni, aa ʒss.      M.

This powder is to be applied to the affected spots, three or four times daily. It effects a rapid cure, and at once destroys the disagreeable fœtid odour emanating from the mouth.—*La Clinique de Montpellier.*

*Cure of Inguinal Hernia in Infants by strapping with Adhesive Plaster.*

IN the case of a child æt. two months, M. Balestrier having reduced the hernia, laid upon the abdominal ring half of a small ball of yellow wax, which he fastened in its place by means of strips of adhesive plaster, from three to five inches in length, and of different breadths, laid on the skin at right angles with one another. The strips next the skin were the narrowest, and being gradually increased in breadth towards the surface, they formed a sort of graduated compress, and the whole was covered by a broad band of plaster, which passed in a figure of eight round the pelvis and between the thighs. In forty days the strapping was removed, the hernia was found completely cured, and did not again descend. The difficulty of applying trusses to young infants, and keeping them in their place when they are applied, must be familiar to all; we should think that the mode above described may, on further experience, prove highly useful, and that the strapping might be rendered less cumbersome than the description leads us to imagine. We should fear, however, that the tender skin of an infant might be much irritated from the adhesive plaster being suffered to remain on it for the length of time that is necessary.—*Journal de Méd. et de Chirurg. Pratique*, April 1844.

## FORENSIC MEDICINE AND MEDICAL POLICE.

*Examination of the Body of a Man killed by Lightning.*

THE subject of this examination was a very old man. The external surface of the body presented very slight marks of violence, except the left ear, which was severely lacerated. On opening the head, the left hemisphere of the brain was found entirely disorganized, forming a homogeneous mass, almost liquid, of a grayish colour, and without a vestige of normal struc-

ture, except a small portion of the *corpus striatum*, which retained its natural appearance and situation. The left lung was partly injured. The skin of the abdomen was marked by black longitudinal superficial lines. On the skin of the left ankle there was an ecchymosed spot, and at the point of the foot a deep wound. The hat and shoes of the sufferer had been destroyed, but the rest of his clothes were uninjured.—*Journal de Médecine*, 1844.

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*On the Absorption of Arsenious Acid by Vegetables.*

M. TRINCHINETTI watered with a weak solution of arsenious acid the earth in a vase containing a plant (*citronille*); he observed that at the end of two days it did not appear to be sick, but the sap expressed from it contained arsenic. M. Gianelli repeated the experiments, and found that the plants could absorb sufficient arsenic to cause death in rabbits when eaten by them.—*Journal de Pharmacie*.

[The chemical evidence of the presence of arsenic in the investigations of M. T. is not very satisfactory, for apparently the only reagent used by him was the ammon. sulph. cupri, and we know that other substances besides arsenic yield a green precipitate with that test.]

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## PART IV.—MEDICAL MEMORANDA.

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*Authentic Report of the Morbid Appearances in Dr Abercrombie's Case; with some Observations on Rupture of the Heart, and on the Variation of Weight in the Human Brain.*

As several misstatements and exaggerations respecting the morbid appearances in the case of Dr Abercrombie have crept into some of the published accounts, we present our readers with the authentic Report drawn up by Mr Goodsir, who performed the dissection. Our own account in our December number, though drawn up hastily from oral statements, will bear comparison with this report in all the essential particulars.

*Morbid Appearances in Dr Abercrombie's Case.*

**"Head.**—The skullcap was thick. The *crista galli*, the posterior clinoid processes, and the bones of the head generally, were powerfully developed.

"The brain was softer than might have been expected at the time of the examination (fifty hours after death). There were no traces of old or recent effusions of blood. The internal carotid, the circle of Willis, and all the arteries of the organ, were studded with much atheromatous deposit, and the internal carotids at their last curve were slightly dilated. The organ was of great size, and weighed 63 oz. avoirdupois. The ventricles were capacious, without an increased amount of serum, which appeared to correspond to the great size of the cavities.

**"Heart.**—The pericardium contained a large clot of blood, enclosing the heart like a mould.

"On the posterior surface of the left ventricle, two-thirds from its base, and about one inch and a half from the septum, there was a fissure or rent, a quarter of an inch long, in the direction of the fibres of the ventricle, with

ragged and ecchymotic edges. Towards this fissure a considerable branch of the left coronary artery passed, but did not open into it. In the fissure the ruptured orifice of a vein was visible; and a bristle introduced into it passed on towards the base of the ventricle, and appeared on the cut surface of the posterior wall of the ventricle made on opening the heart. In the neighbourhood of the rupture two irregular ecchymotic spots were situated, through which passed branches of the coronary artery. These spots consisted of effused blood, but their connexion with ruptured vessels could not be distinctly made out. The serous membrane over them was quite entire.

"Both coronary arteries were much dilated as they passed off from the aorta. Throughout their course they contained in their walls much atheromatous matter, but were not ossified. The aorta and its semilunar valves also contained a considerable amount of the same deposit, but the former was not enlarged.

"The heart was slightly enlarged and dilated, rather loaded with fat, and remarkably soft, as if from interrupted nutrition. All the cavities of the heart were found empty. Extensive adhesions of the right pulmonary and costal pleuræ.

"The other viscera were healthy."\*

Our statement as respects the source of the extravasation was as follows:—"The substance of the heart was very soft and easily pierced. The immediate cause of the seizure so quickly fatal was, beyond doubt, a sudden extravasation of blood, which was traced to a ruptured vessel on the posterior aspect of the heart, not very far from the apex. This vessel proved to be a *coronary vein*. The aperture did not exceed the twelfth part of an inch across." We did not venture to pronounce the very small and superficial breach in the serous membrane and substance of the heart over the vein, through which the effused blood made its way into the pericardium, to be a primary rent or rupture of the heart involving the vein; because, though in drawing up the statement that idea had occurred to us, it had not been suggested by any of those present at the dissection with whom we had conversed. Indeed, it could not but be a matter of doubt whether the breach were a primary rent involving the vein, or a mere superficial passage forced in the softened heart by the blood in its escape outwards, when it is considered how very small a superficial breach only a quarter of an inch or three lines long is, no more than three times longer than the minute aperture in the vein, and when the presence of ecchymotic spots around and in the edges of the aperture is looked to. Moreover, it does not appear that the vein was laid bare so as to ascertain whether it was merely ruptured in its walls, or broken quite across. The ecchymotic spots are not satisfactorily explained on the supposition of sudden rupture of the superficial substance of the heart, unless, indeed, as is not very unlikely in such a state of the heart, they preceded the final rupture.

There can be no question that doubts on the true pathological nature of the case prevailed at first among those who took an interest in this matter, when these were suddenly silenced by the report of a case which occurred in the town only two days, we believe, after Dr Abercrombie's death. In this case the patient died suddenly in the presence of her medical attendant, who had been sent for on account of some slight ailment. On dissection, a breach quite distinct, both in length, and breadth, and depth, with serrated edges, was found on the posterior

\* Edinburgh Medical and Surgical Journal, vol. lxii. p. 231.



aspect of the heart, in which breach distinct apertures were found in three coronary veins, from which sudden hemorrhage had occurred, filling the pericardium. Here the most transitory inspection of the heart (and the preparation was exhibited publicly) forced on every one the conviction that the rupture of the outer layer of muscular fibres was the primary lesion, and that the rupture of the coronary veins was secondary, or that these were involved in the first lesion. The occurrence of this well-marked case, under circumstances so exactly similar, at once gave a decisive turn to the doubts before entertained on this point. And, as usually happens, a species of reaction took place, under which this idea exaggerated the almost imperceptible breach from which the blood had issued in Dr Abercrombie's heart into a gaping rent. Our first account, having been printed before the case referred to became public, escaped the influence of this exaggeration, the effect of which, however, may be judged of for example in the *London Medical Gazette*, where the minute breach in Dr Abercrombie's heart is represented as a rent an inch and a half long.

The primary ruptures of the heart on record are almost without exception, we think, of greater extent than that in Dr Abercrombie's heart. A case of rupture of the heart in a man seventy-two years of age, who dropped down and died in a moment while walking near his own door, was reported last year by Mr Nason to the Birmingham Pathological Society, and the preparation of the heart exhibited. The pericardium was found completely filled with black blood, partly coagulated. There were three ruptures in the heart, "in the middle of the anterior face of the left ventricle. The one above, the largest, extends downwards and outwards, has very irregular and rugged edges, and is capable of admitting the points of the first two fingers. The middle one is situated below the inner termination, and on a level with the outer termination of the rupture just described; it is capable of admitting a goose-quill. Underneath these is situated the third rupture, which is large enough to admit the point of the middle finger; its edges also are rugged and irregular."\* As it is not expressly stated, and also because the blood is described as black, though the wall of the left ventricle was affected, we might be inclined to infer that these rents did not extend into the cavity of the heart, and that the hemorrhage was from ruptured coronary veins. But it is not allowable to assume this as certain, since so able an anatomist as Cruveilhier states, that in one of the two cases of rupture of the heart recorded by him in his "*Anatomie Pathologique*," he was not at first able to discover the external aperture to proceed to the internal surface of the left ventricle, as he afterwards found to be the case, though the pericardium was distended with blood.

In short, without more leisure to look into this matter than we have on our hands at the present moment, we would not undertake to contradict what Dr Adam Hunter, the friend and medical attendant of Dr Abercrombie, says in the memoir read to the Medico-Chirurgical Society of Edinburgh:—"The investigation has brought to light a new, and as far as I have been able to ascertain, a unique pathological phenomenon. I have looked into the works of Morgagni, Corvisart, Otto, Hope, and others, without finding any parallel instance of rupture of a few superficial fibres of the

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\* See Provincial Medical and Surgical Journal, 7th August, 1844.

left ventricle, with opening of coronary vein, as the source of fatal hemorrhage."\*

We confess that, if called on to answer on the instant, we could not affirm that in any one of the numerous recorded cases of rupture of the heart in which immediate death took place from hemorrhage, except that referred to as having occurred almost simultaneously with Dr Abercrombie's death, that the effusion of blood took place unequivocally from the mere rupture of a coronary vessel, and not from a cavity of the heart having been laid open.

In a "recent French author we remark the following observation in speaking of one of the older cases, one namely recorded by Fernel (about the commencement of the Reformation), in which sudden death took place, and after death the pericardium was found distended with blood, where, nevertheless, no mention is made of any aperture whatever in the heart:—"L'identité des symptômes observés à la mort de cet individu, avec ceux des personnes qui succombent à une rupture non contestée du cœur, ne permet guère de douter que cet organe, *ou tout au moins un de ses vaisseaux*, n'ait été rompu dans ce cas, et ne soit la cause de cette mort subite."† Notwithstanding this indication of his conviction that rupture of the heart, not perforating any of its cavities, but merely involving one of the coronary vessels, may give rise to destructive hemorrhage, we seek in vain, in the twenty pages which follow on this subject, for any reference to a distinctly recorded case in which effusion of blood from this source, suddenly fatal, occurred.

In the cases of rupture recorded by Harvey, Morand, Lancisi, Bonnet, Val-salva, Haller, Morgagni, and Senac, a cavity of the heart was uniformly laid open to a greater or lesser extent. Portal has expressly written on rupture of the heart, and in all the cases referred to by him, five or six in number, the rupture was attended with an opening into one of the cavities of the heart.

Bouillaud, in his work on the Diseases of the Heart, gives a distinct chapter on the subject of rupture. In all the cases reported by himself the perforation of the wall of some cavity is stated. He gives, besides, a species of brief analysis of the recorded cases with which he is acquainted. Among these we find, besides some that we have already referred to, forty-nine cases collected by Ollivier of Angers, two by Rostan, one by Andral, one by Bland, and one by Ashburner; yet on none of these does he remark that fatal hemorrhage took place without perforation of a cavity.

When Cruveillier, under the head of rupture, speaks of apoplexy of the heart, it might be supposed that he refers to the possibility of fatal compression of the heart by the sudden effusion of blood. But his apoplexy of the heart is in fact nothing more than an ecchymotic state of the substance of the organ, the blood being derived either from the coronary vessels or from slow infiltration along the fibres from one of the internal cavities. Such an apoplexy (an unwarrantable name, as we think, for a mere ecchymotic state of any tissue but the cerebral, notwithstanding Laennec's authority) can have no other relation to the fatal hemorrhage in rupture of the heart than the predisposition which it gives to

\* See Edinburgh Medical and Surgical Journal, January 1845.

† Traité Pratique des Maladies du Cœur, par J. Pigeaux, Paris 1839, p. 280.

more easy laceration—and this is the view which Cruveillier himself takes of it.

Thus French medical literature throws little or no light on the pathological event under consideration. And as far as we have observed, English authorities afford us as little satisfaction. Besides the case already referred to, reported in the *Provincial Medical and Surgical Journal*, there are two other cases recorded in the same periodical (18th Nov. 1843), in both of which death occurred from sudden effusion of blood into the pericardium—in the one from perforation by rupture of the left ventricle, in the other of the right ventricle. In the *Lancet* (13th June 1836), a case of sudden death at the plough is recorded; after the man was buried, suspicion of violence arose—the body was exhumed, and death found to be owing to hemorrhage into the pericardium from an aperture in the left ventricle.

In the descriptive catalogue of the preparations in the Museum of the Royal College of Surgeons in Ireland, there is noted a preparation of ruptured heart—the opening being into the left ventricle, near its centre, and sufficient to admit a large bougie. About the opening there is a large patch of ecchymosis. It is added in the catalogue, on the authority of Professor Colles, that the patient had symptoms considered to be apoplectic a week before his death, for which he was bled and had an issue put into his arm,—that the death was sudden in the water-closet (as in many other such cases), and that the pericardium was found distended with blood.

It would be as easy to multiply references to cases of fatal hemorrhage from perforation of the heart, as difficult to meet with them parallel to that of Dr Abercrombie, or of the female who died so soon after him.

It is manifest, then, that the subject of fatal hemorrhage from merely superficial rupture of the heart, involving a coronary vessel, is, as Dr Hunter says, new or almost new in pathology. And we will merely warn those who wish to be on the watch to discover new cases of this character, that the external aperture in a case of perforating rupture is uniformly larger and more conspicuous than the internal, and that the passage between them is not unfrequently very oblique, so that nothing but the most skilful examination will afford satisfactory evidence of the breach being merely superficial, when sudden death has occurred by hemorrhage into the pericardium.

We see no reason to doubt that such a quantity of blood as was found around Dr Abercrombie's heart could be discharged in a few minutes, even from an aperture no more than the twelfth of an inch in diameter; but the sudden discharge of so large a quantity implies a force correspondent to the near vicinity of the vein to the centre of the circulation,—a force which, it is not difficult to suppose, might, without primary rupture, easily pierce through a superficial layer of softened substance to reach the pericardium. But though it be undoubtedly allowable to conjecture on a subject not yet sufficiently investigated, we must admit that the assumption of a primary rupture involving the vein affords in the mean time the more satisfactory explanation of the result.

It appears from the above report of the dissection, that the weight of Dr Abercrombie's brain was 63 ounces avoirdupois or imperial weight. This we stated, without mentioning the kind of ounces, in our account in the December number of this *Journal*, and added, that it was only one ounce less than the weight of one of the largest brains known, namely, that of Cuvier. We knew that Cuvier's brain had been represented as about 64

English ounces; but, on looking into the accounts, we regret to find so many discouraging contradictions on this subject—a too frequent result when medical men meddle with figures beyond what they are familiar with.

We cannot help giving a specimen of these contradictions, and pointing out their source, on a subject on which correct knowledge is desirable. In the Archives Générales de Médecine, vol. xxix., we find a statement, apparently on unimpeachable authority, to the effect that Cuvier's brain weighed 3 pounds 11 ounces some odds,—and that the cerebellum alone weighed 6 ounces,—but the kind of weight is not indicated. But Tiedemann, in his elaborate paper in the Philosophical Transactions, on the Negro brain, represents the weight of Cuvier's brain as 4 lbs. 11 oz. odds, troy weight, or 59 troy ounces. We discover, however, on inspection, that he brings out the 59 troy ounces, which rather exceed 64 ounces avoirdupois, by an erroneous calculation. He first assumes, on what ground he does not mention, that the weight given in the Archives Générales, namely, 3 lbs. 11 oz., is avoirdupois weight; and wishing to convert this into troy weight, he forgets that the troy ounce exceeds the avoirdupois ounce by 42·5 grains, and making the two ounces alike, he at once sets down the 3 lbs. 11 oz. supposed avoirdupois as equivalent to  $3 \times 16 + 11 = 59$  ounces troy. If the above 3 lbs. 11 oz. from the Archives be really avoirdupois, the weight of Cuvier's brain in troy ounces was not 59, but 53·7; for 59 is to 53·7 as 480, the number of grains in the troy ounce, is to 437, the number of grains in the avoirdupois ounce. The ordinary French pound is the "poids de marc," and this most probably is the kind of weight referred to, which Tiedemann mistakes for avoirdupois. This pound is equivalent to 7561 troy grains, and the French ounce is equivalent to 472 troy grains. Cuvier's brain was equal to 27,875 troy grains, or to 58 troy ounces. But 58 troy ounces are equal to 64 ounces avoirdupois, or imperial weight, because 58 is to 64 nearly as 437, the avoirdupois ounce, to 480, the troy ounce. It is plain, then, that Cuvier's brain is usually represented as weighing 64 English ounces, on the assumption that the 3 lbs. 11 oz. odds, spoken of by his biographer, are "poids de marc."

According to this view, then, our statement was correct, that Dr Abercrombie's brain was only one ounce short of the weight of Cuvier's.

The contradictions respecting the weight of Dupuytren's brain are hardly less numerous than those in the case of Cuvier's. In the Archives Générales there is a particular account of the *post-mortem* appearances, in which no mention whatever is made of the brain having been weighed. In the London Medical Gazette it is rated at 2 lb. 14 oz., and the cerebellum alone at 4 oz. 5 grains. In the paper before referred to, Tiedemann makes the weight of Dupuytren's brain 4 lb. 10 oz., which he says is troy weight. But this cannot be relied on, unless we obtain some assurance that he did not bring out the troy pounds and ounces by the same process by which he made the same estimate in the case of Cuvier's brain. But, as this seems to have been the case, the real weight in "poids de marc" must have been 3 lb. 10 oz., equivalent to 27,408 troy grains, or 57·1 troy ounces; and this quantity, reduced to avoirdupois or English imperial ounces, equals 62·87.

Thus, if these corrections be well founded, the weights of the three brains stand as follows:—Dupuytren's 62·87, Abercrombie's 63, Cuvier's 64, in avoirdupois or English imperial ounces.

The following extract from the results obtained by Sir William Hamilton,

Professor of Logic in the University, in his elaborate inquiry into the weight of the human brain, will exhibit the high relative development of the above three brains:—"The following, among other conclusions, are founded on an induction drawn from above *sixty human brains*—from nearly three hundred human skulls, of determined sex, the capacity of which, by a method I devised, was taken in sand, and the original weight of the brain thus recovered. \* \* \* \* The adult male encephalos is heavier than the female; the former nearly averaging in the Scots head 3 lb. 8 oz. troy (48 avoirdupois oz.); the latter 3 lb. 4 oz. (nearly 44 avoirdupois oz.), the difference 4 oz. (4.38 avoirdupois oz.) In the male, about one brain in seven is found above 4 lb. troy (52.66 avoirdupois oz.); in the female, hardly one in one hundred."

From Dr John Reid's Tables\* it appears that the average weight of the encephalon in fifty-three males and thirty-four females was—male, 50 oz. 3½ drams avoirdupois; female, 44 oz. 8 drams, giving a difference between them of 5 oz. 11 drams.

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*On the Spontaneous Expulsion and Artificial Extraction of the Placenta before the Child in Placental Presentation.* By PROFESSOR SIMPSON. (*Extracted from the Minutes of the Medico-Chirurgical Society of Edinburgh*).

Wednesday, 4th December 1844.

PROFESSOR SIMPSON gave a communication on the expulsion and extraction of the placenta before the child in cases of unavoidable hemorrhage. He showed that in common cases of presentation of the placenta, when managed according to the rules generally followed under the circumstances, the mortality among the mothers was very great. Out of 174 cases tabulated from different authors by Dr Churchill, this complication had proved fatal to 48 mothers, and a more extensive table of 339 cases, drawn up by Dr Simpson himself, presented a mortality of mothers in 115 cases; or, one out of every three died.

In contrast with these statistics, Dr S. brought forward a number of cases (some previously recorded and others collected from private sources), in which the placenta had come away before the infant, either expelled by the natural efforts alone, or in consequence, in several instances, of the reputed bad management of the accoucheur.

The number of cases collected was 120 in all. Out of these only 8 mothers died, or one in 15. In two the cause of death was not stated by the reporters; in one the patient perished from puerperal fever, and two only were alleged to have died from hemorrhage. In one of these last two cases the hemorrhage ceased as soon as the placenta was separated, but too late to save the woman.

The same cases also show that, although much blood may have been escaping before the placenta comes away, yet as soon as the separation is complete, the hemorrhage usually ceases or becomes very trifling. A complete separation of the placenta is thus proved to be far less dangerous than a partial one—a fact that may at first appear somewhat paradoxical, but which is readily explained by the structure of the fetal placenta. The hemorrhage comes chiefly from the placenta itself. When it is only partially separated from the uterus, the blood enters freely by the adherent

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\* London and Edinburgh Monthly Journal of Medical Science, vol. iii. p. 322.

portion, and escapes as freely from the free surface of the part that is detached.

From a consideration of these facts, Dr S. was led four years ago to propose to the Obstetrical Society, Whether, in cases of hemorrhage from placental presentation, we should not sometimes adopt the practice of extracting the placenta in order to arrest unavoidable hemorrhage, leaving the fœtus to be expelled by the natural efforts of the uterus or otherwise. Dr S. stated he had adopted this procedure in one case, in autumn last, with perfect success, the placenta having been extracted two hours before the birth of the child. This method he thought would be found particularly applicable to those sets of cases in which turning or rupture of the membranes is inexpedient or impracticable; as, in cases where hemorrhage occurs to an alarming extent, while the os uteri is still small and rigid; in unavoidable hemorrhage in first labours; in placental presentations, when the patient's strength is already so sunk from the flooding as not to allow, without danger, of immediate turning or forcing delivery; in cases when the child is known to be dead, &c. &c.

Wednesday, 8th January 1845.

After the minutes of the previous sederunt were read, Dr Simpson rose and said, that in bringing forward, at the last meeting of the Society, the facts which he had then stated, to show the propriety of extracting the placenta before the child, as the proper method of treatment in some instances of unavoidable uterine hemorrhage, he thought the plan he had suggested was so far original, and he was induced to bring it before the members under this conviction. Since they had last met, however, that is within the last month, the same plan had been published as a new and original one in two different medical journals. He alluded to the subject in order to assure the Society that he had not intruded upon them, as novel and his own, a plan of treatment which they might thus deem to belong to others. On the other hand, though in neither of the publications adverted to was there any acknowledgment of him whatever, or of his originating these views, yet, some months ago, he had occasion fully to describe his ideas and proposal on the subject to each of the writers of these two articles (a fact which some gentlemen present could corroborate if necessary, in regard to one of them in particular)—and they appeared to be received as new at that time by both of the two authors.

The special method of treatment which he had brought forward had been discussed yearly ever since he was elected to the chair of Midwifery in the University, was well known to most of his obstetric brethren in Edinburgh, and had been long ago (1841) formally brought by him before the Obstetric Society.

He was sorry to be obliged to state these points in his own behalf on such a subject; but he had been advised that silence upon the matter would be highly unjust, both as regarded himself and as regarded the society.

The president suggested that the statement made by Professor Simpson was of such a nature that it ought to be entered in the minutes. This was unanimously agreed to; and the secretary was instructed accordingly.

*Extract from Sir James Graham's Reply to the Apothecaries' Company, in Answer to a Communication from them of 26th December 1844.*

SIR JAMES GRAHAM states that "he is ready to receive any matured plan for incorporating a new body of general practitioners; but that, before he can form an opinion, or even consider such a project, all the details of the scheme must be laid before him, and the names of the leading persons who promote it, and who are parties to the proposed organization, must be declared."

As a preliminary step to complying with Sir James Graham's requirements, the society invites attention to the following points, as involving the principles of the PROPOSED COLLEGE OF LICENTIATES IN MEDICINE AND SURGERY.

The Qualification of the individuals to be incorporated.

1. In the first instance.
2. Subsequently to the grant of the Charter.

The Council, or Governing Body.

Number.

Qualification.

Election.

1. Qualification of Electors.

2. Manner of Voting.

Duration of Office.

The Court of Examiners.

Number.

Qualification.

Mode of Appointment.

Duration of Office.

The Society of Apothecaries express themselves willing "to receive the expression of the views of the general practitioners throughout the kingdom, through the medium of the local associations, on the details of the proposed scheme of incorporation, and to smooth the way for mutual explanation and mutual concession, and to assist in effecting such an agreement among their brethren, at least upon the main features of the plan, as shall enable the society to lay before her Majesty's government, on behalf of the general practitioners of this country, a scheme which may fairly represent the wishes of the great majority of that body."

"They have," as they observe, "no personal, corporate, or local interests, to advocate. The very existence of an independent college of general practitioners, implies a resignation, on the part of the society, of all further interference with the education or control over the affairs of the general practitioners. They will have only one aim and object therefore left to them, namely, to see the general practitioners in the full enjoyment of an independent organization, and to lend their zealous help to the success of that measure."—*Provincial Medical and Surgical Journal*, Jan. 15, 1845.

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*Contracts taken by Medical Men with Benefit Societies.*

WE have received a printed communication from Glasgow on the subject of contracts taken by medical men with Benefit Societies to attend their sick, the remuneration being by a small capitation tax on the whole

number of members. It is too long to reprint; and we have obtained too little information on the special cases to venture on giving a decisive opinion.

There cannot be a more difficult subject than the proper rules under which medical men should be remunerated for their services. Under-selling and mercantile competition are great evils; and those unduly guilty of such practices should be put under the ban of the profession. Yet even this rule of opposition to competition may be carried too far—and sometimes things may be properly left to right themselves. Though the public are rather obtuse on the subject of medical qualifications, they have, nevertheless, the common sense at length to see (and their vision on this subject is becoming more and more clear every year) that the ability to treat diseases properly depends on something more than mere bustling activity and low prices. Where, then, medical men cannot otherwise help themselves against unfair competition, they must trust to the improving judgment of the public, and strive to keep up their old price by a sedulous increase in the value of their qualifications.

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*Note to Dr Weir's Paper.*

WE insert the following note in addition to Dr Weir's paper in the present number, which came too late to be put in its proper place.—We add a communication just received from an ingenious medical friend in the interior of Brazil.

While this paper was passing through the press, I received from Mr Alex. Lindsay, surgeon here, a short account of a case, in some respects peculiar, which I am obliged still farther to abridge. J. T., aged twenty-one, complained, on 5th September 1844, of numbness of right arm and leg, with slight œdema of the right eyelids; also pain at lower part of abdomen, increased on pressure. The bowels had not been moved for some days, and no urine discharged since 1st September. "The breath had a distinctly urinous odour." The pulse was 96. The catheter was introduced, but no urine escaped. Notwithstanding appropriate treatment, he became drowsy and absent, and at last quite paralytic. He died convulsed on 10th September. An ounce and a-half of urine was got away on the 8th, and two ounces on the 9th. No inspection. In this case the patient had "constant desire to micturate;" and the "atmosphere around the bed was completely impregnated with urinous odour."

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*Note on the Expediency of Applying to the Elucidation of Certain Points in the Relations between Public Health and Meteorology the Results of the Observations carried on at the various Magnetic Observatories now established by different Governments.* By RICHARD GUMBLETON DAUNTE, Esq., M.D. Edin., Licentiate of the College of Medicine of Rio de Janeiro, and late Hon. Secretary of the Parisian Medical Society.

It would be idle trifling were I to dwell on the probabilities which establish, according to the extent of their evidence, the existence of certain hitherto undefined agencies reducible to no ascertained laws, which, developed in the macrocosm of this planet, are made known to us by their effects on the ele-



ments, on animate nature, and on the microcosm with which, beyond all other creations, its sensibilities were of old elegantly supposed to be interlaced. In our present amount of positive knowledge, besides the grosser influences of temperature, insolation, moisture, &c., terrestrial magnetism is a not yet studied but an evident medium by which the living man is brought into a condition of subjection to earthly influences, the most powerful of their kind yet admitted.

Terrestrial magnetism, as all the other branches of meteorological science, is a subject which, from the difficulties attending its pursuit, can only be prosecuted advantageously under the auspices of the public authorities; and thus etiology and physiological dynamics have, until this day, remained as much destitute of the aid which is to be drawn from these sciences as at any remoter period.

Among the laity especially, much attention has ever been paid to certain circumstances of weather. Cowper, with perfect truth, tells us of the

“ Unhealthful east,  
That breathes the spleen, and searches every bone,  
Of the infirm.”———

This is true as to Europe; and in all countries certain winds produce effects so invariable, as to render necessary the admission of some unknown but powerful quality—in all likelihood a variation of kind in the earth's magnetism. I have prefaced the above in order to introduce a suggestion worthy to be taken up by the medical societies, that in all the stations—*verbi gratiâ*, Ceylon, Tasmania, St Helena, Canada, Cape of Good Hope—where magnetic observatories are in action, the principal medical officers of the respective commands should be required to prepare registers, formed not only on the garrison, but on the civil population, embracing a variety of subjects, useless to enumerate here, which would show the relation between the fluctuations of the public health and the various degrees and kinds of magnetic force and direction, and the relation between the various winds and the terrestrial and atmospheric magnetism. Such returns, were government anxious, might be most easily obtained, and would be invaluable. But unhappily medicine meets with few favours, though a well understood egotism would lead every individual to offer facilities for its advancement. One not ordinarily wise has said, “Cede locum medico, dominus enim illum creavit” (Ecclesiasticus, cap. 38); may it not be the fault of the profession in part, that to-day it is no longer regarded with the same feelings? Until physicians learn scrupulously to regard their personal and corporate dignity themselves, they will continue to find their representations slighted. I may add, that my views on the propriety of government doing what I propose, were first formed by the extraordinary dysæsthesia and lassitude which I experienced on one occasion in St Helena, in 1842, during a magnetic storm, of which I chanced to become aware by finding my friend, the talented conductor of the magnetic observatory there, Lieut. Smythe, R. A., engaged, on my return to the house, in a series of two minute observations, a fact which sufficiently explained to me what had occurred during my walk.

Comarca de Cabo frio, Brazil, August 1844.

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PART I.—ORIGINAL ARTICLES.

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*Case of Tetanus, in which Recovery took place.* By PATRICK NEWBIGGING, M.D., F.R.C.S.E., one of the Medical Officers of the New Town Dispensary, Member of the Anatomical Society of Paris, &c.

THE subject of this case was a baker in the Grassmarket, æt. twenty-eight, married, and of sober and industrious habits. On the morning of the 16th February 1844, when, as usual, engaged with his occupation in the bakehouse, he had occasion to go into the open air to chop wood, while in a state of profuse perspiration, at a season when the cold was very intense. In the evening he complained of stiffness about the angles of the jaw, which gradually increased until the 19th, when it became almost completely fixed or locked.

He applied for advice at the New Town Dispensary on the 22d, or about a week from the day on which he first complained, and was seen that evening by my pupil, Dr Parr, who immediately reported the case to me, and we visited him together on the following morning. On my first examination, I found the patient complaining much of stiffness at the angles of the jaw, and at the back of the pharynx and soft palate, but unaccompanied with pain unless in the paroxysms of spasm of the muscles of the face and abdomen, which occurred about every half hour, and lasted nearly a couple of minutes, being preceded by a sense of cold and followed by increased heat of skin and profuse perspiration. During the paroxysm, he complained much of darting pains extending around the chest, and particularly at the scrobiculus cordis, as well as in the abdomen, and this more especially when he made any effort which called these muscles into action. The masseter and temporal muscles, as well as the muscles of the back, were extremely rigid, the eyebrows much drawn up, and the lids half closed, so as to

give to the countenance a peculiar expression of tension. The extremities were not affected to any considerable degree, but, owing to the rigidity of the muscles of the trunk, he appeared to walk with difficulty, and always in a stiff, erect posture; the articulation was indistinct, and the mind somewhat dejected. The pulse was natural, except during the paroxysms, when it became slightly excited. The bowels were constipated, and had been so for several days; the discharge of urine was scanty, and exhibited much phosphatic sediment. He was bled to 12 oz., and a drop of croton oil administered, with orders that it should be repeated, if necessary, and a large blister was applied over the upper part of the spine. The bowels were moved after the first dose of the oil, and produced very offensive dejections. In the evening he felt easier, the spasms had become less frequent, and his articulation was not so indistinct.

On the following day (24th) the severity of the symptoms was somewhat mitigated; 50 drops of morphia were prescribed at bedtime, and a drop of croton oil in the morning.

On the 25th, he complained much of difficulty of swallowing, and of the frequency of the spasms, recurring, as they then did, every fifteen minutes. The back was much curved, so as to admit of the closed hand being easily passed between it and the bed. The pulse continued natural, and the bowels had been moved by the croton oil. He was bled to 14 oz., and 50 drops of morphia with 30 of the tincture of the Indian hemp, were administered at bedtime. A liniment of turpentine and ammonia was rubbed over the body, particularly on that part of the spine which had not been affected by the blister. On the following morning he felt less uneasiness, but the spasms recurred with greater frequency and severity towards the evening, when a blister was applied to the lower part of the spine; the dose of morphia and hemp, ordered on the 25th, was now exhibited four times a-day, the bowels being kept open by means of croton oil.

On the 28th Dr Graham Weir, who saw the case frequently, administered a tobacco enema, which produced considerable depressing effect, but without any amelioration to the distressing symptoms. As he expressed much dislike to the oil, one-sixth of a grain of elaterium was substituted for it. The extremities had now become affected with the tetanic symptoms, whilst the trunk was frequently rigid, the spasms occurring every five minutes; the quantity of morphia was increased to 70 drops, at the same intervals as formerly. On 1st March the croton oil was again had recourse to, in consequence of the elaterium proving ineffectual. Dr Abercrombie having, at this time, been requested to see the patient, suggested the use of arsenic, which was accordingly admini-

stered, along with the morphia, which he had been getting for several days at the rate of from 50 to 70 drops, at intervals. At this period of the case, when the nature of the disease must be evident, it is unnecessary for me to give the daily reports; I shall therefore merely mention its prominent circumstances as they occurred, and shall content myself with a *résumé* of the treatment at the termination of its history.

He continued to improve as regards the tetanic symptoms until the 7th, when he was suddenly seized with great difficulty of breathing, general tremor accompanied with lividity of the face and lips, which, however, was speedily removed by placing him in the erect posture. The medicine having been discontinued for the last two or three days, an active croton purgative was administered, and the morphia was again had recourse to, in 40 drop doses, three times a-day. He went on progressing until the 12th, when the spasms returned, as also the fits of breathlessness, which had occurred more or less frequently since the attack on the 7th. He now began to complain of pain in the right hypochondrium, increased on pressure. The different symptoms detailed, however, together with the rigidity of the limbs, were gradually disappearing under the treatment hitherto pursued, so much so, that he was now able to sit up in an easy chair, but there was still great difficulty in opening the mouth. On the 22d he expectorated a considerable quantity of matter mixed with mucus, and occasionally to such an extent as to cause symptoms of suffocation, owing, in all probability, to the contraction of the muscles of the jaw, thereby causing obstruction to the discharge of pus. On examination of the chest, mucous râles were audible all over it, but especially on the lower part of the right side. The expectoration of matter continued for about three weeks, and then subsided.

On the third April, having observed that he inclined his head much forward, which had been previously in the opposite direction, we examined the back of the neck, and found considerable thickening on both sides of the spinous processes of the vertebræ, unaccompanied, however, with pain on pressure. This forward inclination of the head became by and by so troublesome, preventing him taking his meals, &c., that he was obliged to have his head supported by a handkerchief fixed to the chair. As the general symptoms progressively improved, anasarca appeared, and the limbs became swollen to a very considerable extent; but by the due employment of diuretics, this formidable state of matters was removed, and, with the exception of a slight inclination of the head forward, and some stiffness of the jaw, which did not admit of the mouth being fully opened, he got quite well, and was able, about the end of May, to return to his business as usual,—the duration of the case being thus upwards of three months.

The principal features of interest in this case of what is considered a rare disease in this country, are, the gradual affection of the different muscles of the body, commencing with those of the jaw, and the successful issue of the treatment, which, however varied, may be considered to have resulted from the persevering employment of croton oil and opium; for although arsenic, Indian hemp, colchicum, &c., were administered to him at different periods, I believe, to none of these was so much benefit attributed by us—and he was occasionally visited by Dr Abercrombie, Sir George Ballingall, my father, and Dr Duncan—as from the exhibition of opium in full doses, with the occasional use of croton oil; for, whether we consider this medicine to be endowed with any specific effect or not, as reasoning from somewhat analogous cases of nervous affections I feel disposed to do, it certainly seemed to be followed by greater relief to the tetanic symptoms than when an ordinary purgative, such as scammony, gamboge, &c., was exhibited. I have occasionally observed benefit from the Indian hemp in allaying irritation and causing sleep, particularly when opium was contra-indicated; but I am somewhat doubtful of the value of this remedy in tetanus, and am disposed to think, that no case where opium is so decidedly indicated can be benefited by the administration of hemp, if the former powerful remedy has failed to be of service.

The history of the above case, I think, shows that the unfavourable prognosis, so often verified in tetanus, ought not to discourage our perseverance in the remedies, however formidable and intractable the nature of the complaint,—the indication manifestly being, to remove the cause of the irritation and re-establish the deranged secretions. I believe I am right in stating that the pathology of this disease is somewhat obscure, although there appears to be almost always a certain amount of congestion in the vessels of the spine and effusion into its canal; and it was remarked by Larry that, in persons who had died of traumatic tetanus, the membrane of the pharynx and œsophagus was covered with a viscid reddish mucus; but it seems by no means certain that this was connected with the cause of the disease, as it might have been merely an occurrence during the progress of the malady, or possibly a post-mortem appearance.

In the case whose history I have just related, it is probable that the complaint was produced by some degree of inflammation at the upper part of the spine, as indicated by the thickening felt externally, and that this being followed by formation of matter, which subsequently became connected with the organs of respiration, it was expectorated as described in the report of the 22d March. This view might assist in explaining the sudden and great discharge of pus, apparently unpreceded by any previous inflammation of the chest; but I cannot believe that any disease of the bones or articular apparatus had existed, inasmuch

as the motions of the cervical vertebræ are now, in all respects, perfectly normal. There is one point on which all authorities on idiopathic tetanus seem to agree,—viz. the torpid state of the intestines, and the extremely offensive nature of their contents; and this condition is worthy of attention, showing how important must be the employment of well-selected purgative medicines in such cases.

29, HERIOT ROW.

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*Case of Hemorrhage, of an Unusual Kind, causing Death.*  
By JAMES M. ADAMS, Surgeon, Glasgow.

June 22, 1844.—JEAN COLQUHON, aged fifty-five, a collier's wife, of temperate habits and spare body. This morning, when she awoke, she complained of a pain in her left side, under the inferior angle of the scapula. The next day a small tumour appeared over the seat of pain, and increased in size until the following day, when my brother, Dr A. Adams, was requested to visit her. He found a flattened oblong tumour, about five inches in its long diameter, and situated as before mentioned. It was elevated about an inch above the surrounding integument, distinctly circumscribed, slightly elastic, and obscurely fluctuating. There being little or no constitutional disturbance present, my brother did not consider it necessary to enter upon a very minute examination of the case, and simply ordered the application of poultices containing a solution of the muriate of ammonia, with the view of discussing what he considered to be a cold abscess. The swelling subsided during the day, coetaneously with which there came on a spitting of blood. I visited her on the following day (the 24th) and found her sitting up by the fireside. She complained only of feebleness and chilliness. She had a slight cough; but her breathing was not accelerated. Her pulse was 90, small and feeble. The hemoptysis still continued. There was an evident fulness of the part pointed out to me as having been the site of the tumour, but it was neither prominent nor circumscribed, nor was there any discoloration of the skin. The tumefaction, as it may be called, felt hard, did not crepitate or fluctuate, and a careful examination with the stethoscope elicited nothing positive. I prescribed repeated doses of the tincture of the muriate of iron, after the second or third of which the hemoptysis ceased. I likewise directed the use of wine and warm clothing. On the following day, and the fifth from the first notice of the affection, the tumour suddenly re-appeared, and quickly extended, elevating the skin from the margin of the inferior rib up to the middle of the neck, and from the spine posteriorly to within two inches of the sternum anteriorly. She sank rapidly, and died in the course of the day.

*June 28th. Inspectio Cadaveris.*—This day, assisted by my friend Dr Menzies, I examined the body. It was emaciated to an extreme degree. The *heart* was pale and flabby; its vessels were filled with pale serum, and a thin layer of serous fluid lay beneath its investing membrane. The ventricles were firmly contracted; the right auricle was filled with fibrinous clots; one of the valves of the tricuspid was ossified at its base, as was also one of the semilunar valves of the aorta. The aorta and the other great vessels of the heart were healthy. The right lung was closely attached to the costal pleura by firm old adhesions. The substance of the lung was loaded with frothy serum. The substance of the left lung was healthy; but several parts of its circumference were emphysematous. A firm band, about an inch in thickness, attached the lung to the costal pleura. That part of the pleura which corresponded to the first appearance of the tumour was of a livid ecchymosed colour, caused by extravasated blood lying beneath and external to it. The liver was enlarged, but was otherwise healthy. A biliary calculus of the size of a walnut was found in the gall-bladder. The mesenteric glands were unusually large. The spleen was of enormous size, and occupied the whole left side of abdomen. It measured fifteen inches in length and eighteen in circumference; and we estimated its weight at nearly fourteen pounds avoirdupois. It was of a dark brown colour and firm fleshy texture. Its external surface was mottled with patches of yellow, which extended half an inch into its substance, and at one part there was found a serous cyst of the size of a nutmeg. The other abdominal viscera were healthy.

The integuments on the left side of the body were now dissected carefully off, when the tumefaction was found to consist of an extensive layer of thick grumous blood, very dark in colour, and of a tenacious consistence, the quantity of which we estimated at nearly four pounds avoirdupois. It lay beneath the greater pectoral and the latissimus dorsi muscles, and these, together with the intercostal muscles, were thoroughly infiltrated, and in some parts disorganized, and their insertions detached by the extravasated blood. The axillary vessels were carefully traced and examined, and a minute search made, but no ruptured vessels could be found.

The muscles of the body were singularly pale and exsanguine. The relatives stated that the tumefaction appeared much less after than a short while before death.

From the previous history of the patient, it appeared that for many years she had laboured under an obscure abdominal affection, for which she had occasionally sought relief from medical men. About twenty years ago, she had a severe attack of fever. She had borne several children, the last one about twelve years prior to the present period, and on the day following that occasion an alarming uterine hemorrhage had come on, and continued,

with remissions, for eight days. She was attended by two medical men, one of whom had resided almost constantly in her house for several days, in order that he might be at hand to control the discharge of blood. Since that period she had twice suffered very severely from epistaxis; the last seizure of which happened about eighteen months previous to the present date. I saw her frequently during this illness, and I have never witnessed a case so obstinate and unmanageable. It lasted a week, but she was long in recovering from the state of extreme debility which it induced.

I consider this case interesting, and in some degree unique, for, in referring to books, and to the experience of my medical friends, I have failed in gaining intelligence of a strictly analogous example. Of the many recorded cases of hemorrhagic diathesis I find but three or four which have occurred in females,—none of them proved fatal, and one would have been more properly called vicarious menstruation. Indeed, one of the most singular features in this unfortunate disposition is its tendency to attach itself exclusively to the male sex, and this both in its natural and acquired form. There is abundant evidence to show that it may be continued for successive generations in the males, while the females of a family have shown no trace of such a habit. The history of my patient gives sufficient evidence of a hemorrhagic diathesis, in her case acquired; for none of the near or distant branches of her family had ever given evidence of such a disposition.

Some obscurity exists with regard to the exciting cause of the hemorrhage; and it would be interesting if it could be shown that the enormously enlarged spleen had any connexion with this morbid diathesis, seeing that modern physiology is inclined to attribute an important share in the process of sanguification to that organ. The mere enlargement would of itself favour the occurrence or persistence of hemorrhage, from a mechanical cause alone, just as abdominal tumours of various kinds—an enlarged liver, or even the pressure of the gravid uterus, have been observed to cause hemoptysis. Dr Perry informs me, in reference to the present case, that in several post-mortem inspections of fever and other patients made in the Glasgow hospital, and in which he has met with those local congestions and extravasations of blood between the layers of muscles which are occasionally observed in fever cases, he has also noticed a co-existence of enlarged spleen, which induces him to think that there is a connexion between the abnormal states of this organ and of the blood or its vessels. It must, however, be remembered, that of many recorded cases of enlarged spleen given by Morgagni, Haller, Lieutaud, and others, there is no notice of the existence of such a coincidence.

My first impression on exposing the extravasated blood was, that there probably had existed a small aneurism, which had



given way; but a close and patient investigation failed to discover any trace of such an affection. It would have been satisfactory to have inserted a pipe in the axillary vessels and thrown in an injection, but we were not afforded such an opportunity. I am inclined, however, to believe that I accidentally stumbled on the probable exciting cause of the hemorrhage, for on happening to suggest in the course of conversation that the deceased might have struck against some sharp angle of a chair or table, or have received an accidental blow from the elbow of some one, probably while asleep, the eldest daughter became much agitated, and bursting into tears accused herself as the cause of her mother's death. For, she said, that on the first morning of her illness her mother complained of her having been restless during the night, and of having jostled her roughly, adding, moreover, that she had lain by the left side of her mother. I was grieved at having thus unwittingly given pain, and of course endeavoured to undo the effects of my unlucky supposition. Be it correct or not, there can be no doubt that a cause equally slight might lead to similar results in an individual having the same constitutional tendency. Most practitioners of any experience must have met with cases wherein, from slight bruises, &c., there have ensued ecchymoses and extravasations of blood to an extent much beyond what might have been expected from the severity of the injury. I had lately an opportunity of witnessing such a case through the polite attention of my friend, Mr Lyon, and I am aware of many others of a like nature.\*

Though isolated examples of effusion of blood† may be found scattered through British medical literature, yet I cannot find that the subject has been treated of fully and in detail. But in the *Clinique Chirurgicale*‡ of M. Pelletan, there is contained an excellent memoir entitled "Sur les Epanchemens de Sang," in which are embodied numerous illustrative cases, occurring in his practice while surgeon to the Hotel Dieu. All the cases there detailed were the result of external violence, but in none of them was the hemorrhage so severe as to cause death, as in the present instance. Those cases which proved fatal did so at

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\* In passing this sheet through the press, a case of this nature has come under my care. A mechanic, after a day's hard digging in a garden, about a week since, was seized with pain in the ham of the right leg, followed by a swelling. This swelling extended to the middle of the calf of the leg, and partly surrounded the knee. In a few days the skin became discoloured, and, at the present time, there is an *ecchymosis* of the deepest purple extending from the hip to the calf of leg, while the rest of the leg to the toes is of a livid orange colour.

† The distinction between *effusion* and *ecchymosis* must be borne in mind. *Ecchymosis*, strictly speaking, is a discoloration caused by an infiltration of blood through the cellular tissue. The term *effusion* is applied when the blood rests contained in a natural cavity, or in a pouch formed by the blood itself in escaping from its vessels.

‡ Paris, 1810, vol. ii. p. 98.

a late period, and the result was owing to secondary causes, or to other influences than the mere loss of blood. The subjects of all his cases were males.

The condition of the blood in hemorrhagic cases has naturally attracted much attention. I gave particular notice to it in the case of my patient, both on the occasion when she suffered from epistaxis eighteen months prior to her decease, as also during her last fatal illness. It accorded with the description given by other observers, being of a light colour and watery consistence, while it did not coagulate. It was evidently deficient in the due amount of fibrine and colouring matter, and in short bore a considerable resemblance to the menstrual discharge.

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*Case of Quadruple Birth, all the Infants being alive; with Remarks.* By THOMAS BLACK, Esq., Surgeon, Anstruther, Fifeshire. Communicated by Dr WILLIAM CAMPBELL, Lecturer on Midwifery, and Consulting Physician-Accoucheur to the Lying-in-Hospital, &c., Edinburgh.

MRS SPENCE, æt. thirty-two, of a sound constitution, vigorous habit of body, married to a journeyman tanner, and the mother of four male and two female children, all of which were uniparous and produced after easy natural labours, was seized with uterine action, in her seventh pregnancy, early on the morning of the 30th January 1845. Labour commenced at five o'clock on the above date, when the patient, in her own estimation, was about nine months pregnant; and at half-past seven two male children were born. After the birth of the second the pains ceased, and continued suspended until half-past one, when they recurred, and at two o'clock two female infants were expelled—the whole process occupying only nine hours.

The membranes of all the ova were ruptured artificially, and the proportion of liquor amnii discharged by each was as copious as is usually observed where the uterus contains but one ovum. There was no hemorrhage before delivery, during its progress, or after its completion. The placentæ, all of which were expelled almost immediately after the fourth infant, equalled, in the aggregate, the placentæ of three uniparous fœtuses. Three of them formed but one cake, and the fourth was distinct from these, but connected to them by a long process of the membranes. Each of the umbilical cords was as thick as we usually find the funis of the uniparous fœtus; and in one of them there was but a single artery, which was large.

The first male child presented the breech, and the second a foot; and the first female infant presented a foot, and the second the breech. The weight of the first male child was four pounds

six ounces avoirdupois, and its length eighteen inches; and the weight of the second was four pounds five ounces and a half; the first female infant weighed four pounds seven ounces and a-half, and its length was eighteen inches; and the second weighed four pounds three ounces, and in length measured seventeen inches.

During the whole of her previous pregnancies, Mrs Spence enjoyed good health, as she did also in the present until the close of the sixth month. At this last period the pelvic limbs became affected with œdema, which pervaded the whole of the extremities and increased to a great extent; there appeared above the pubes a circumscribed swelling, the size of a child's head, which caused much uneasiness, but the pain and tumefaction subsided shortly after delivery; and during the last month of her pregnancy, she was greatly distressed with dyspnœa. She quickened, as nearly as she could estimate, at the close of the fourth month; and fetal movement was not more troublesome at any period of the present than in her former pregnancies. Her size in the latter months of gestation became enormous—greatly exceeding that in any of her former gestations. Both her husband and herself are of a most amorous disposition, especially the former, who is three months younger than his wife, and appears to be phthisical. They subsist chiefly on fish, with only occasional repasts of animal food and vegetables. This woman's mother had eleven single births, and once twins; and her maternal aunt had twelve single births, and once twins. None of her husband's relations had plural births.

This remarkable case furnishes various points for reflection. *First*, it is interesting to observe how the system was enabled to conduct, in their regular order, its important functions of respiration, circulation, and digestion, exposed to the interruptions which might naturally be supposed to arise, and frequently indeed happen, from the mechanical influence of the gravid uterus, enlarged as it must have been in the present instance to a volume of unusual magnitude.

*Secondly*, We are here afforded an unusual example of the insusceptibility of the system to irritation; and from its vigour, of its capability, during the natural period of gestation, to supply the necessary materials for the development of the gravid uterus and its contents. For it occasionally happens, even in cases of twins, and very frequently where the uterus contains three or more fœtuses, that these are prematurely expelled, either from the uterus being affected by the irritation set up in the system by so large a body as the gravid organ interrupting some of the more important functions of the animal economy, or by the system itself being incapable of supplying the materials required for supporting the important function which is in operation.

*Thirdly*, Although, since we have become familiar with the

advantages which the stethoscope has conferred on our profession, we do not attach much importance to any of the superficial signs of the presence of multiplicate ova, formerly enumerated, yet œdema of the pelvic extremities, as has been noticed by all men of experience, is one of those which is rarely absent.

*Fourthly*, The distressing dyspnœa complained of during the last month of gestation is readily explained by the encroachment of the gravid uterus upon the thorax, and consequent interrupted descent of the diaphragm during inspiration. The circumscribed swelling above the pubes was probably a hernia ; for although it is exceedingly rare, in examining the bodies of females who have died undelivered, to observe any viscus between the anterior parietes of the uterus and the walls of the abdomen, yet in occasional instances, during parturition, we discover ventral protrusions of considerable magnitude.

*Fifthly*, It is worthy of notice that the first and second infant of each sex should be expelled in the same position ; while the second male and the first female presented similarly. Nor is it a little remarkable that the first of each sex were nearly of equal weight and length, while in these particulars there was also a near correspondence betwixt the second infant of each sex.

*Sixthly*, Considering the number generated, their development was certainly exuberant ; for although twins in most cases are not only retained to the full time and born alive, but also in occasional instances of equal weight and development with uniparous births, yet when the number in utero exceeds two, they are generally thrown off prematurely, and one or more of them is still-born or even decomposed.

*Seventhly*, Although the parents declare that they could not fix on any circumstance tending to the simultaneous generation of so productive a conception, yet the history of the case furnishes us with several particulars which may be considered favourable, to say the least, to the production of a multiplicate progeny. For we are informed that the mother is of a sound constitution, and of a vigorous habit of body ; that some of her near relatives had plural births ; that the fare of the parents consisted principally of fish ; that the male parent is phthisical ; and that both parents are of a most amorous disposition, particularly the father.

*Eighthly*, The production of two of each sex corroborates the conclusions at which Hofacher and Sadler had arrived, viz., that when the ages of the parents are equal, the sexes engendered by them will also be nearly in equal proportion.

It is not the object of the writer to attach much importance in this instance to the favourable circumstances in health and constitution enjoyed by the female parent, as tending to favour the propagation of a multiplicate progeny, since every practitioner of observation must have met with cases in which females conceived though the system in general was not only in a prostrate

condition from disease, of which phthisis is a good and frequent illustration, but in which some regions even of the uterus itself must have been affected with incipient scirrhus. Males, too, are capable of engendering their species, not only when affected with phthisis, but when the system is in a dilapidated state from other diseases, of which the *Phil. Trans. Lond.*, vol. xvi. p. 294, an. 1787, abrid. edit., contains a case exactly in point; where a woman produced triplets at a birth, though her husband had been paralytic over one-half of his body for two years previously, and had no reason to doubt the fidelity of his partner. In occasional instances, as in the case before us, there is evidently a hereditary predisposition in females, and sometimes also in the other sex, to the generation of multiplicate births. In Dr Campbell's *System of Midwifery*, 2d. edit., p. 121, it is stated, on the authority of Osiander, that one woman who produced thirty-two children at eleven births was herself a triplet—her mother having borne thirty-eight children; and that another female had been delivered of five at a birth, and her sister of three. Dr Campbell also relates, on the authority of one of his pupils, that an individual residing in the same district of the country to which he belonged had twins born to him by his own wife, and by each of four other women all in one year. From the *Med. Surg. Journ. Lond.*, 1833, we learn that the wife of a native Russian was delivered of four at a birth four different times, three at a birth seven different times, and twins sixteen times; that this woman having died, the husband married a second wife, who produced triplets twice, and twins six times. In the same periodical is related the case of a Frenchwoman who produced triplets three times, and her husband being desirous of determining whether his wife or himself was the principal agent in these births, seduced his servant-maid, and she also produced triplets; but we are not informed whether the experiment was repeated. The prolific powers of families inhabiting villages on the sea-coast, whose fare consists principally of fish, has always been too remarkable to escape observation; nor are we to overlook the very amorous and remarkably prolific powers which have sometimes been manifested by phthysical individuals, and of which the following illustrations, related in the abridged edit. *Phil. Trans. Lond.*, vol. xvi. p. 297, and in the January number of the present year of the *Northern Journal of Medicine*, are very much in point. In the first of these, a woman conceived of five fetuses, although her husband had been in an infirm state of health for three years, and labouring under phthisis when these were born. In the second case, a female, æt. thirty-five, the wife of a man aged thirty-six, emaciated and cachectic, produced four male children at a birth.

\* \* The four infants, the subject of our report, are alive and thriving.—Feb. 12, 1845.

*Statistical Report on the Edinburgh Epidemic Fever of 1843-44.*

By A. HALLIDAY DOUGLAS, M.D., Fellow of the Royal College of Physicians, and one of the Physicians to the Royal Infirmary, Edinburgh.

(Continued from page 220.)

HAVING already investigated the *circumstances* of the patients, and also the *general* and *special* features of the fever, we propose now to examine into the nature of those secondary disorders, or *complications*, which at times accompanied the attack. As a general rule it may be stated that there was a greater liability to accidental complications in this disease than in our more usual forms of fever. These complications, in very many cases, became primary in point of importance; the general characters and symptoms of the fever being much deranged, and even lost in the urgency of the local symptoms.

By far the most frequent and the most important of the complications was connected with

INFLAMMATORY DISEASE OF THE MUCOUS MEMBRANE OF THE  
LOWER PART OF THE INTESTINAL CANAL.

This inflammatory action affected the mucous membrane of the bowels, and principally of the great intestine, though in the fatal cases it was almost always impossible to determine where the lesion had originated, as the whole membrane was implicated, from one or two feet above the ileo-cæcal valve to the anus. In these cases, the most prominent symptom was

DIARRHŒA.

Thirty-three of the cases presented this symptom, but in 11 of these the attack was insignificant, and easily restrained. Of the remaining 22 cases, 8 proved fatal.

*The attack of diarrhœa generally occurred late in the fever*,—that is, of the 33 cases, 30 were seized with diarrhœa after the day of relapse; and one-half of these were not affected till after the second crisis. Two of these latter cases had a first attack of diarrhœa in the intermission. In 3 cases, the looseness occurred during the primary attack. From these facts we ought perhaps to regard this diarrhœa rather as a sequela than as a complication. The more severe forms of the complication did not manifest a preference for any particular stage; but in the fatal cases, the attack occurred after relapse. Of the 3 cases affected in the primary attack, 2 were very trifling in severity. The opinion that the diarrhœa was in some cases critical, is supported by the facts, that in 6 of the

33 cases, it occurred at the precise time of the crisis, and lasted only for a single day in four of these. In these cases, however, the sweat is reported to have occurred in all but two, and in these two, it was not ascertained positively that it had not existed; while in two of the 6 cases, the perspiration was unusually profuse.

*The Age* of these 33 cases was ascertained in 32 instances, and was as follows:—

Above 10, and under 30,	17 cases, or 14·5 per cent.
30,	50, 9 17 per cent.
60,	70, 6 21·4 per cent.

*The Habits* of the 33 patients who became affected with diarrhœa, were intemperate in 7; and of these 3 died.

*The Attack* of diarrhœa was in most cases *sudden*, 8 or 12 evacuations taking place within the first twenty-four hours. In a few cases, it was more gradual in its accession. The diarrhœa was in some cases ushered in by rigors, vomiting, and abdominal pains, but in the greater number no shivering occurred. Pain and tenderness of the abdomen existed only in 7 of the cases, and was observed chiefly in the lower parts of the belly. Vomiting was troublesome only at an advanced stage, in the cases presenting this complication. In the most severe cases it often was most harassing. The evacuations were scanty, largely mingled with blood and mucus; straining, tenesmus, and griping pain at times existed. In the less urgent cases, the stools were dark, slimy, and feculent, only occasionally tinged with blood. The pulse in no case attained the highest rates of frequency, and in some of the most severe, it was remarkably slow, not exceeding 80, and at times 60, in the minute.

In two instances, the diarrhœa followed immediately the administration of a purge: both were severe; one of them proved fatal.

*The Duration* of the attack of diarrhœa was very various, according to its severity, and also apparently according to the treatment in the first days of its existence. Of the fatal cases, the most prolonged died on the 25th day from the attack of diarrhœa, being the 48th from the accession of the fever. The most rapid case died within 7 hours of the occurrence of diarrhœa. Of the 33 cases of this complication, 8 proved fatal; in 5 of these the diarrhœa occurred after the second crisis, in 3 during the relapse. In all of these cases, the patients were advanced in life: 3 of them were intemperate.

*The Nature* of the lesion which existed in these cases will be best explained by the 4 following cases, in which I had an opportunity of observing, by *post-mortem* investigation, the morbid

state of the intestinal mucous membrane, in different stages of advancement.

*First*, A man, Turnour, in whom the diarrhœa occurred at an advanced stage of a severe attack of the fever. He died within seven hours of the time when it set in, and the evacuations were largely mingled with blood. On examination, the lesion was found to be limited to the mucous surface of the sigmoid flexure of the colon. It existed in the form of small disconnected arborescent elevated patches and punctuations, of a brilliant red colour, irregularly scattered over the whole circumference of the gut. The mucous membrane in the vicinity of these patches was healthy in appearance and consistence. This case may be presumed to represent the earliest stage of the morbid condition, which in the other 3 cases attained a much more advanced state before the fatal event.

*Second*, In these last cases, the morbid appearances were so similar, that they may be comprehended under one general description. The lesion occupied the great intestine, and from 18 to 40 inches of the ileum, which presented, on its mucous surface, all the varieties of deep red, purple, and dingy brown colours, there being the most intense vascular injection. The mucous surface, more especially of the great intestine, was coated with a discoloured membrane or pellicular effusion, which had the appearance of having been separated here and there in patches and spots. In one of these 3 cases, there were scattered over the mucous surface numerous cup-shaped, circular ulcers, with inverted and thickened edges. These were most numerous in the lower portion of the bowel.

The mucous membrane of the intestine was generally soft in these cases. In one instance, the gastric mucous membrane also was softened, and presented many points and irregular shaped small patches of effused blood. In this case, the stomach and bowels contained a large quantity of a foetid dark green grumous fluid.

*Pulmonary Complications.*—The complications connected with the organs of respiration were for the most part unimportant. They occurred in the form of catarrh, bronchitis, and pneumonia, singly or conjoined. Cases of catarrh scarcely merit a place amongst the complications. They were about 50 in number, and required treatment in a very few cases only, and the symptoms generally abated with the febrile paroxysm.

*Bronchitis* was a more troublesome attendant of the attack. In every case of any severity, the patient was ascertained to have been more or less subject to chronic chest complaints. None of these attacks proved very serious, and in all of them in which milder means failed, cupping between the scapulæ, followed by nauseating doses of antimony, proved most useful. In several cases the dyspnœa, cough, and expectoration were considerable,



but in 3 cases only was recovery materially impeded by this complication.

*Pneumonia* occurred in 6 cases. In 4 of these there was accompanying disease of the mucous membrane of the bowel, which proved fatal in 3 cases—the 4th died from gangrene of the lungs. Of the 6 cases complicated with pneumonia, 1 only recovered.

*Cerebral Complication.*—In 1 case\* only, we have proof that this existed. A temperate man, aged 40, was admitted after the occurrence of relapse; the previous progress of the attack appeared to have been mild. On the morning of the 5th day of his relapse, he became unexpectedly affected with delirium: Coma, stertorous respiration, and puffing of the lips quickly followed, and he died after 36 hours. The lateral ventricles of the brain contained an ounce and a half of serum, the fornix, septum lucidum, and, in part, the walls of the ventricles, were softened.

#### SEQUELÆ.

The peculiar pains of the limbs, &c., which have attracted such universal observation, may be ranked as the most frequent of the sequelæ. I wish to distinguish from this a form of sequelæ that occurred in two cases, and which may with propriety be styled *rheumatic inflammation*. In both cases the hand was the seat of the attack, the joints presented pain, swelling, redness, heat, and stiffness. The attack endured for a few days only—yielding to simple treatment.

In 1 case, a rigid state of the masseter muscles prevented the movements of the lower jaw; and in 1 the same effect was produced by inflammation of the right maxillary articulation, which was tender, and presented a circumscribed swelling. The parotid gland was enlarged in only 1 case.

*Œdema of the Lower Extremities* was very frequent. The degree of the œdema was in most cases quite insignificant; in many it was such as to demand the horizontal posture, bandaging, &c.; and in a few cases the limbs were affected as high as the hip joints. In the very worst of them, it did not endure longer than the first 8 days of convalescence. Treatment did not appear to exert much influence on the swelling, but it always disappeared with the improving strength.

*Partial Paralysis* of the fore-arm occurred in two cases—in one of them during the intermission. In both cases the attack was sudden, with accompanying numbness, and was succeeded by slow but steady improvement. The paralytic state continued more or less for several weeks, indeed had not entirely disappeared at the time of dismissal. There was no accompanying head symptom.

*Erysipelas*, of a slight description, and confined to the parts

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\* This case occurred during my absence from town for a few days, and was reported by Dr Paterson.

around the eye, occurred in 1 case. The attack occurred in the intermission.

*Peritonitis.*—This occurred in 1 female; she was admitted late in the fever, and was at the time suffering from the peritonitis. Temporary benefit only was derived from treatment, and she died on the thirty-eighth day from the accession of the fever. The peritoneal surfaces of the bowels adhered at all their points of contact, giving rise to the formation of circumscribed sacs of various sizes, filled with purulent fluid. There was a copious formation of lymph in flakes, and coating the peritoneal surface.

The sequelæ which have still to be noticed were comparatively frequent in their occurrence, but as they rarely existed till a more advanced period of the convalescence, subsequent to dismissal from the hospital, the opportunities of observing them in connexion with the present cases have been very limited.

*Cutaneous Eruptions.*—Of our cases, only 2 presented this sequela previous to dismissal from the hospital; 1 in the form of scabies purulenta, and in 1 there was universally over the surface an abundant lichenous eruption. In these cases the eruption endured 12 and 8 days.

*The Post-febrile Ophthalmitis.*—This is the last of the sequelæ to be noticed; and we shall confine our attention to such of our cases as were affected during their residence in the hospital. In 2 cases only did the attack occur at this early date, and in none of these did it present the severity which has been ordinarily met with. In both cases the attack occurred on the second day of the relapse. In 1 of them, first the right, and subsequently the left eye became affected. Pain was complained of in the ball of the eye; the injection of the conjunctiva was very considerable, the sclerotic being but little affected; the pupil was unaffected, and vision unimpaired; the light was borne well; the flow of tears was, in 1 of the cases, remarkably increased. The most simple treatment only was necessary.

#### MORTALITY.

Of the 220 cases, 19 died. The proportion in these cases, then, is 8·63 per cent., or one in 11·578.

*The Sex* of these 19 fatal cases was male in 14 instances, and female in 5.

*The Age* in these 19 fatal cases was as follows.

Age.	No. of Fatal Cases.	Proportion of Mortality, per cent.
Under 30,	1* or	0·74
Above 30, and under 40,	3 or	9·
Above 40, and under 50,	3 or	15·
Above 50, and under 60,	7 or	36·
Above 60,	5 or	55·

\* This man was of very dissipated habits, and broken constitution.

*The Habits.*—Of these 19 fatal cases, 6 of the patients had been so dissipated in their habits that their health was much impaired. In several of them, the symptoms presented those peculiarities which are, by common consent, associated with this depraved state of the constitution. In one case, death occurred on the fourth day with well marked symptoms of delirium tremens. In 3 of these 6 cases the fatal event was more immediately induced by complication with the inflammatory disease of the intestinal mucous membrane. In the 2 remaining cases the patients struggled through both the primary attack and the relapse, and died late in the disease; one of them without any very prominent local symptom, the other with obscure head symptoms, and in a low typhoid state.

*The Circumstances,* or more immediate cause of the deaths, may now be considered. We shall investigate the existence, or not, of complication in these cases, and the date of the fatal event. It is necessary, however, to exclude three of the fatal cases from this investigation; as in these cases, the very existence of the fever could scarcely be satisfactorily ascertained, owing in part to the stage of the attack in which the patients were admitted, and in part to the urgency of the symptoms connected with the local diseases under which they laboured. These cases were the two which died from peritonitis and double pneumonia, and the case of an old female,\* who at the time of admission was suffering from urgent diarrhoea, and was in a state of great prostration.—She died within four days of her admission.

Of the remaining 16 fatal cases, 8 were complicated and 8 were simple. The complicated cases presented in 7 instances the inflammatory disease of the intestinal mucous membrane; in one case, cerebral softening. Of the 8 simple cases, the constitutional health was ascertained to be much impaired, in 3 of them by old standing disease, or by habits of intemperance.

*The Date* of the fatal event in these 16 cases was as follows. The 8 simple cases died, in 4 instances, in the primary attack; in one, in the intermission; in 3, in the relapse. The 8 complicated cases died, in 2 instances, in the relapse,—one of these being the case of cerebral softening; in 6 instances, the death occurred subsequent to the second crisis,—in one of them, as late as 28 days.

In some cases the fatal event supervened unexpectedly and very suddenly. In 2 of the simple cases, this occurred; in one of these on the seventh day, and previous to any crisis, after a few hours' uneasiness, and complaint of pain and tender-

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\* This case is calculated, at page 269, amongst the deaths from the dysenteric complication.

ness of the upper part of the belly. The previous symptoms had been mild. In the other case, death occurred on the eighteenth day, during the intermission, and without any previous complaint. The patient was found in the morning in an easy posture, and dead, as if for some hours. A similar case occurred to me in private,—a female aged 30, of very full and plethoric habit, who had suffered from a smart attack of the fever with jaundice, but appeared to be doing well. About the period of the first crisis, without previous warning, and within half an hour of having expressed herself as feeling easy, she was found dead.

#### MORBID ANATOMY.

The morbid anatomy of the most important class of the fatal cases has been already considered in the section on the inflammatory complication of the intestinal mucous membrane. The prominent morbid appearances in the *simple* cases will be shortly stated in this section. Dissection was made only in three of these cases.

In one man who died suddenly on the seventh day, the skin presented a faint, dingy, yellow colour; there existed a universal and considerable deposit of fat on the surface, and in the omentum and mesentery. The liver was enlarged, and loaded with blood; it weighed 6 pounds, the spleen weighed 16 ounces. The mucous membrane of the stomach and bowels appeared healthy. The heart and lungs were altered by chronic disease. In the two remaining cases which were examined, one of them having died suddenly during the intermission, the other having sunk gradually late in the relapse, no organic lesion was discovered after the most careful examination.

In three of the cases which died from the dysenteric complication *subsequent* to the second crisis, the weights of the liver and spleen corresponded to the natural standard.

In the third case of sudden death, which occurred about the period of the first crisis, mentioned in the previous section, there existed immense deposit of fat, the liver and spleen were much enlarged. The precise weight of the organs could not be taken, but the spleen was at least three times the natural size.

#### TREATMENT.

We shall not occupy space by explaining the use of several of the more usual remedies, such as emetics, purgatives, diaphoretics, &c.; but we shall rather confine our attention to the subjects of *blood-letting, quinine, opium, and stimulants*.

*Blood-letting*.—General bleeding was practised only in a few of the earlier cases which came under treatment. The more urgent complaints were generally relieved by it, but it did not exert any influence on the subsequent progress and duration

of the attack. When the remedy was indicated, a small evacuation of six or eight ounces was generally effectual, relieving headache, local pains, &c.

Bleeding was practised during a febrile paroxysm in 10 cases; in 7 of these with immediate effect on the pulse, or faintness; and with speedy relief to headache and other uneasiness in 5 of these 7 cases. In 2 cases no immediate effect followed the bleeding, but subsequent relief was afforded. In one case no effect whatever followed the bleeding. In no case was the effect so marked as in the following:—A stout young woman relapsed on the thirteenth day; within three hours the pulse was 112, skin hot, and headache severe; she was bled to twelve ounces, with effect on the pulse, and speedy relief to the headache; she continued to feel easy, slept some, and sweated in the evening; she had a quiet night, and on the following day the pulse was 84—otherwise well. On the second day she had a rigor succeeded by headache, hot skin, pulse 120, and the other attendants of relapse. This relapse lasted three days. The average residence of the cases which were bled, ascertained from 7 of them, was 24·57 days. The average residence ascertained from 14 cases which were not bled (selected at random), was 27·71 days.

*The State of the Blood drawn.*—In 9 of the cases the state of the blood was reported. It was natural in 3. It was more or less sizzly on the surface, the crassamentum being firm, in 4. The buffy coat existed in two of these (9) cases; in the second cup only, in one; in the other case the clot was cupped and partially adherent to the vessel in which it was contained. The serum was scanty in 2 of the (9) cases. The clot was preternaturally soft in 1. In both the cases in which the blood presented the buffy coat, the bleeding afforded speedy relief to both patients—in the one to abdominal pain, in the other to headache; this second case had two threatenings of diarrhœa, the first being several days subsequent to the date of the bleeding. I had the opportunity of seeing a third instance of well marked buffy coat in the case of a man who was bled in the relapse, in consequence of a violent *bronchitic* complication.

*Cupping.*—This was found necessary in some cases of headache, and in general it proved very effectual. In cases of the bronchitic complication, cupping between the scapulæ was most serviceable. Leeches were frequently and largely used, with much benefit, for the relief of headache, epigastric tenderness, &c.

*Quinine.*—A trial of this remedy was made in a few of our earlier cases, but, discouraged by its apparent inefficacy, we very soon desisted from its use. The dose in which it was given was from two to four grains three or four times a-day; and its use was, for the most part, commenced on the second or third day after the first crisis.

Of 24 patients who took quinine, 22 were ascertained to relapse; the 2 patients who did not relapse left the hospital on the fifteenth day of their fever—one of them having a persistent whiteness of the tongue, which augured a probable relapse.

The date of the relapse in 21 of these cases was as follows:—

On the thirteenth day, 4 cases,				
...	fourteenth	...	7	...
...	fifteenth	...	4	...
...	sixteenth	...	2	...
...	seventeenth	...	2	...
...	eighteenth	...	1	...
...	nineteenth	...	1	...

Which gives as the average date of relapse in these cases, the fifteenth day. This corresponds exactly with the average date of the relapse struck from the whole of our cases. In these 21 patients treated by quinine, the relapse occurred most frequently on the fourteenth day, as was the case in those treated without quinine.

The duration of the relapse was reported in 16 of these 21 cases. The second crisis occurred on the second day in 5 cases,

...	...	third	...	4	...
...	...	fourth	...	3	...
...	...	fifth	...	4	...

The average date of this crisis, reckoned from these 16 cases, is the third day,\* which corresponds to the average date of its occurrence in the cases treated without quinine.

It will be observed, by comparing the preceding table with the one at page 19, that a larger proportion of the cases treated by quinine presented the second crisis on or before the third day than those cases treated without quinine. The proportions are, in the cases treated without quinine, 44, or 41·9 per cent.; in the cases treated by quinine, 9, or 56·2 per cent.

From this return it appears that the quinine exerts an influence solely on the duration of the relapse. This opinion is strengthened by the fact that, in the four cases in which the second crisis was so late as the fifth day, the quinine was not given regularly, or only for a period of two days.

Two of these (16) patients having been bled, the modification of the relapse in their cases may have been connected with the blood-letting. In one of them the second crisis did not occur till the fifth day, and the quinine had been given irregularly. In the other the second crisis occurred on the second day; the bleeding was practised on the previous day, and the quinine had been given with regularity.

*Opium.*—This, in various forms, proved a most useful remedy. Its good effects were very marked in the treatment of vomiting, "the pains," sleeplessness, and diarrhœa. The disease stood

\* Counting from the day of relapse.

the effects of opium well at all stages; but I abstained from its use, unless some one of the above symptoms was urgent, till an advanced stage of the attack. When vomiting was obstinate, an effervescing draught with 12 or 15 drops of laudanum was administered, and, if necessary, repeated a second and a third time in the course of the day, most generally with the desired effect. Opiate enemata also answered well in these cases.

“The pains” and sleeplessness were very frequently associated; and a draught with thirty drops of the solution of morphia sufficed to give speedy relief, more particularly in the first days of convalescence. In some cases, in which the pains continued obstinate, the opium, as well as other remedies, proved quite ineffectual. By far the most important use of opium was in the treatment of the dysentery. It was not until after the repeated failure of several other methods of treatment that opium was employed. But so marked was the benefit from its use, that it was in every subsequent case resorted to at once, with the most satisfactory results. It appeared essential that it should be given immediately on the accession of the diarrhoea, as it did not act at all favourably in cases of any standing. When given on the first day, the number of alvine evacuations was immediately reduced,—from seven or twelve to three or four; and in a few days complete cure resulted. The dose in which the opium was given varied with the urgency of the diarrhoea; generally, a grain every sixth, fourth, or third hour; and this was again and again continued for several days with the best effect.

*Stimulants.*—As a general rule stimulants were not required in this form of fever. They were urgently demanded, chiefly towards the close of fatal cases; and few of these sank from *mere depression*, which there was any hope of remedying by stimulants. Small quantities of wine were in some cases beneficial immediately after a critical period—relieving the sense of exhaustion which at times existed.

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*Case of Suffocation in an Infant, by Retraction of the Base of the Tongue, connected with Defect of the Frænum.* By P. FAIRBAIRN, M.D., Fellow of the Royal College of Physicians, Edinburgh.

Mrs H., æt. thirty-five, a stout robust woman, was delivered of her fourth child, a female, at the full period, on the 6th of May 1844. Her labour was natural, but rather protracted. In her former confinements she had severe and protracted labours; the children being very large. Her first boy weighed fourteen pounds avoirdupois; her second thirteen pounds; her third twelve

and a half pounds; and the subject of the present notice was twelve pounds. She was seized with pains on Sabbath about bedtime, and was delivered on Monday about eleven o'clock at night. The placenta separated and was removed shortly after the birth of the child. The baby was large and apparently healthy; it cried lustily. The face presented a peculiar conformation; the superior part projected forwards, and gave a sharp appearance to the countenance; while the lower part was much depressed, the chin presenting a small flattened surface, instead of the rounded and projecting natural form; the expression of the countenance was similar to that observed in individuals who have had the body of the lower jaw excised. From a case somewhat similar, which occurred to me some years before, I suspected that there was malformation about the throat; and, on looking into the mouth, detected a fissure in the soft palate, which allowed the posterior nares and the vomer to be seen; the alveolar processes of the lower jaw were opposed to the back part of the hard palate above; and the tongue, which appeared short, and thick at its root, lay posterior to the palate, the apex alone projecting. On dropping a little sugar and water into the mouth cautiously, it was readily swallowed; but whenever it was given in any quantity it got into the nares and produced much irritation, with cough, and a sense of suffocation. A tea-spoonful of castor-oil was administered on the Tuesday, with a little sugar and water, which acted upon the bowels. Early on Wednesday morning an attempt was made to apply her to the breast, but it was found that she could not suck. Shortly after this, her breathing became oppressed and irregular, with occasional heavy sighing. On my visit in the forenoon, I was particularly struck with the change; and on examining the body of the child I found that the face and extremities had assumed a purplish tint; the heart was beating irregularly and tumultuously; my little patient lay in a state of profound sleep, from which she could not be roused. I then supposed that there must be some malformation of the heart to account for the change which had supervened. The child died at two o'clock p. m., on the 8th of May, without any apparent struggle. Some time before death a little sack-whey was dropped into the mouth, but she could not swallow.

*Sectio Cadaveris.*—On opening the mouth, the posterior nares, the posterior border of the vomer, the upper wall of the pharynx, and the inferior apertures of the Eustachian tubes were readily seen; the anterior surface of the lower jaw lay posterior to the hard palate in the closed condition of the mouth; the soft palate was almost entirely deficient; the tongue was short and thick, retracted into the cavity of the pharynx, its convex dorsal surface resting upon the posterior wall of that cavity, and its base pressed upon the epiglottis and arytaenoid cartilages, so as



completely to obstruct the entrance of air into the larynx; the apex alone could be seen on looking into the mouth, while the jaw was forcibly depressed. Towards the apex the margins were rolled inwards and upwards, so that the anterior part presented a deep furrow superiorly. The frænum appeared to be wanting, or was so slightly developed as not to bind down the lower surface of the tongue to the usual amount. The lower jaw was nearly flattened, forming a small segment of a circle, with a greater diameter than that of which a naturally formed jaw is a segment. The following measurements were made of this jaw, and of a normally formed jaw of the same period.

Breadth between the angles, including the thickness of the bone on both sides in a natural jaw, . . . . .	2 inches
Breadth between the angles, including the thickness of the bone on both sides in a deformed jaw, . . . . .	2 $\frac{1}{2}$ ...
Depth of the arch, including thickness of bone in a natural jaw, . . . . .	1 $\frac{1}{4}$ ...
Depth of the arch, bone not included, . . . . .	1 $\frac{1}{10}$ ...
Depth of the arch, including the bone in deformed jaw, . . . . .	$\frac{3}{4}$ ...
Depth of the arch, bone excluded in deformed jaw, . . . . .	$\frac{6}{10}$ ...

The rami were somewhat smaller and less oblique; there was no malformation of the heart or other viscus; but the thoracic viscera presented the usual appearances in those dying from asphyxia.

Mrs M'A. was safely delivered of a boy, her fourth child, on the 6th October 1839; the labour was natural but slightly protracted. The face of the child presented a peculiar conformation; the upper part was prominent, while the region of the chin was much depressed: this arose from the flattening of the lower jaw, the upper projecting considerably beyond it. A little sugar and water was dropped into the mouth, which was swallowed, but when given in any quantity it caused considerable irritation, sometimes passing out at the nostrils, producing sneezing, coughing, and a sense of suffocation. On looking into the mouth, a cleft was seen in the soft palate with a bifid uvula; the posterior borders of the palate bones formed an acute angle in the mesial line. From this malformation it was found that it could not suck. I directed that he should be nourished by dropping into his mouth cautiously milk procured from a wet nurse. The milk thus obtained was rather old, and being diluted with water did not nourish the child. His bowels became irregular, and he had an attack of convulsions: these ceased on getting his bowels into a better condition with the use of the warm bath and cold applications to his head. I suggested the trial of ass's milk, which was

procured and regularly given him; he continued to thrive well, and became a fine healthy child.

About the third month he began to suck the thumb of the left hand, the palmar surface being carefully applied to the deficiency of space in the soft palate, whilst the fore and middle fingers were applied to the left side of the nose. This showed a very remarkable and striking provision of nature, by which the defect was remedied, and he was enabled to take in his nourishment and swallow with perfect safety, without any feeling of irritation in the nostrils or sense of choking. His food was given him with a spoon, or more frequently with a bottle furnished with a teat, which was conveyed by the side of the thumb into the mouth, and allowed to be sucked in. When he felt hunger, he never failed to apply his thumb and commence sucking. During the whole period of infancy, great care was necessary in the preparation of his food: it consisted of ass's milk, smooth gruel, arrow-root and other farinaceous substances reduced to a pulp. He continued in this way until he began to feed himself about his second year, when the use of the thumb was discontinued; however, if at any time he was incautious in taking too much food into his mouth or swallowing hurriedly, instantly a sense of choking would supervene, the face would get livid, and to all appearance he would seem as on the eve of being attacked by convulsions. After birth he was not permitted to get out into the air for six months; he suffered much from sniffers, being particularly liable to attacks of cold from the slightest exposure even within doors, and had a constant discharge of saliva from the mouth. He is now five years of age, there is a considerable defect in his speech, and what he says has a decided nasal tone. The family know every word he says, unless he speaks rapidly. His faculties are equal if not superior to those of any boy of his age; he sings well, and is highly musical.

#### REMARKS.

The cases related present a striking similarity in their general features, while the results proved very different. This may be accounted for from the malformation exhibiting nearly the same characters in both cases, with the exception of the inferior maxilla of the one being less depressed and somewhat more angular than the other, and also from the defective condition of the frænum, so that the tongue was retracted and the upper part of its root covered the rima glottidis, which obstructed the passage of the air and caused death. In surgical operations about the throat, accidents of the kind are apt to happen; great care is therefore necessary, should there be any

threatening of the accident, to secure the tongue by ligature to some adjacent part. Were a similar case ever to occur to me again, I would never hesitate to transfix the apex of the tongue and to attach it by ligature to the gum of the lower jaw. M. Petit details a case where the frænum had been divided shortly after birth, and the child died five hours afterwards. He says, "I found it turned like a valve upon the fauces, and the point actually swallowed into the pharynx." Another case is mentioned by the same author, where the frænum had been incised two hours after birth, and where the apex of the tongue had been reversed, but not entirely swallowed. M. Petit introduced his finger and brought it back into the mouth. On the child attempting to suck, it was again swallowed. Several times he reduced it, and at last contrived a bandage to preserve it in its place; but from the carelessness of the nurse the accident recurred, and the child was suffocated during the night.

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*Surgical Cases.* By JAMES DUNCAN, M.D., Fellow of the Royal Colleges of Surgeons of England and Edinburgh, one of the Surgeons to the Royal Infirmary, Edinburgh.

*Femoral Aneurism—Ligature of External Iliac—Cure.*

JOHN RYDER, æt. thirty, admitted November 23, 1843; from Massachusetts; a sailor, of a stout robust frame and full habit of body.

In February last, when making a violent effort in reefing a sail, he felt a sudden pain in the right groin, accompanied by a sensation as if something had given way. Next day his attention was called to the part by the pain, which still continued, and on examining it, he found a small pulsating tumour, of the size of a pigeon's egg, about two inches below Poupart's ligament.

The swelling remained almost stationary for three months, but after that continued gradually to increase. From the date of the accident up to within the last few days, he has been actively engaged in the duties of his situation as mate of a merchant-vessel.

He suffered so little inconvenience from it, that he did not think of applying for medical advice until after the lapse of four months. He then consulted a surgeon in Virginia, who told him that it was an aneurismal swelling, and advised him to wear a truss. This he did for some little time, but it proved so troublesome that he soon discontinued it; and no

other treatment has since been adopted, neither did he consult any other medical man until within the last few days, when, on arriving at Leith, he applied to Dr Thomson, who, along with Dr Robertson, recommended his removal to the hospital.

When admitted he stated that during the last month the tumour had increased rapidly, having within that time nearly doubled its size, the increase taking place principally upwards. He has complained within the last few days of a feeling of numbness of the leg; but with the exception of this, which is trifling, and a slight dull pain in the situation of the swelling, he has suffered no other inconvenience from it.

The tumour measured six inches in length, and extended from about an inch above Poupart's ligament downwards. It was somewhat irregular on its surface, in consequence of some enlarged glands lying over it. It felt pretty resisting at all points, except over its upper and anterior part, where it was more compressible and most prominent. It pulsated, when grasped, in all directions; but the pulsations were felt most distinctly over the upper and anterior part. Over the same part an indistinct bellows murmur was heard, more particularly when the thigh was flexed on the abdomen. When the limb was extended so as to make tense the fascia, the tumour diminished somewhat in size; and a certain diminution could likewise be effected by pressure, and likewise by compressing the abdominal aorta so as to suspend the pulsation in the swelling. The integuments over the tumour were free from discoloration, were perfectly lax, and could be moved freely over it. There was no oedema of the limb, and no congestion of the superficial veins. Pulse 80, full and strong; general health excellent; action and sounds of heart perfectly natural. Is anxious to have the operation performed.

In consequence of the plethoric condition of the patient, and the state of the circulation, as indicated by the pulse, it was thought well that he should undergo some preparatory treatment previously to the performance of the operation. Blood was accordingly drawn twice from the arm, aperients were administered, and a mixture containing the tincture of digitalis and tart. antimon. given at stated intervals with the desired effect.

The vessel was tied on the 30th November. The patient was laid resting rather on his left side, with his shoulders slightly elevated and the limb somewhat bent. An excision dividing the skin and superficial fascia was made, commencing about an inch above the middle of Poupart's ligament, and carried upwards for about  $3\frac{1}{2}$  inches, in such a direction as to be, when it passed the anterior and superior spinous process, about an inch or more internal to it. It was slightly curved, the concavity being towards the mesial line. The aponeurotic expansion of the external oblique, the internal oblique, and

threatening of the accident, to secure the extent. The fascia to some adjacent part. Were a similar requisite extent, the perime again, I would never hesitate to vessel exposed. The thin tongue and to attach it by ligature, to a very slight extent, jaw. M. Petit details a case the artery, with its convexity divided shortly after birth, over-pressure being made with the afterwards. He says, "I As a small filament of a nerve lay the fauces, and the point of the artery, another needle was passed Another case is mentioned the first being retained to serve as a frænum had been in the now compressed over the needle, and the apex of the tumour in the tumour ceased. The ligature swallowed. M. being cut close to the knot. The securing back into the r followed by immediate cessation of the pul- again swallow, to a certain extent, of the tumour. The contrived brought together by several points of suture, and lint carelessly with cold water applied. The patient was laid in bed, was supported with the limb slightly bent, and supported by pillows at the

*December 1.* Towards evening the pulse became somewhat accelerated and pretty full. The temperature of the limb remained perfectly natural all night, and he slept well towards morning, from an opiate.

*At the visit—noon—*temperature of the limb is now ten degrees below the sound one. He complains of some numbness of the foot and leg. After the visit he was considerably excited by the crowd of students who had flocked round him;—he talked incoherently, and fancied he saw persons standing round his bed. An opiate antimonial draught was given, which produced sleep, and he wakened perfectly calm. Towards evening the pulse became full, and upwards of 100. V. S. to  $\text{xxviii}$ . was in consequence performed.—Bowels have not been moved.—No tenderness of abdomen.—Su. haust. ol. ricini.—Limb to be enveloped in flannel.

*December 2.* Slept well.—Temperature of limb only two degrees below that of other.—Numbness of leg and foot much diminished.—Wound looks well.—Tumour diminished in size and very firm.—There has been no return of the pulsation. I need not continue the daily reports from this period. With the exception of a slight diarrhoea, nothing occurred to interrupt the progress of the case. The temperature of the limb on the fourth day after the operation was equal to that of the other, but never rose above it. The ligature came away on the twenty-second day. The tumour gradually diminished in size, and when the man left the house a small hard knot could only be felt in the original seat of the tumour.

He left the hospital about the end of February, perfectly well in all respects; and to show his gratitude married the nurse who had attended him, some days after.

heard of him within the last few months ;—he is in perfect health, and following his usual occupation. The line of incision I did in this case, because, from which the tumour extended above Poupart's ligament, it was well to secure the vessel pretty high up. In the operation, not the slightest difficulty was except from the violent straining of the patient pushing the intestines and peritoneum outwards. These, however, were easily held aside by Professor Miller, who assisted me. The ligature of the external iliac is by many regarded as attended with considerable difficulty ; but if I may judge from this case, and from the great muscular development of this man the difficulties must have been as great as in most cases, I would say that it is by no means so. The principal danger I believe to be the wounding of the peritoneum, which has actually occurred ; but this may be easily avoided by ordinary delicacy in the performance of the operation. As to the success of the operation, statistical returns prove it, I believe, to be even more successful than ligature of the femoral. Mr Wilmot, in comparing these two operations in some remarks appended to a case of ligature of this vessel, recorded by him in the Dublin Hospital Reports, vol. ii., remarks, that “ I think it not improbable that, before long, surgeons will prefer taking up the iliac to the femoral in cases of popliteal aneurism.”

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## PART II.—REVIEWS.

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*Glossology, or the Additional Means of Diagnosis of Disease to be derived from the Indications and Appearances of the Tongue.* By BENJAMIN RIDGE, M.D., M.R.C.S.L. London, 1844, pp. 84.

OUR critical acumen has been not a little puzzled with this book. We have been at a loss to decide whether it is to be considered as an emanation from the lowest profundity of ignorance, self-conceit, and presumption, or as a satire upon many of the productions which disgrace the quasi-medical literature of the present day. Charity induces us to hope that the latter of these suppositions is the correct one, and that the author, disgusted with the pretensions to science of many of the quacks rejoicing in the title of M.D., has resolved to expose them by a satirical performance, in which are well imitated their ungrammatical and bombastic style, their abuse of all that is respectable in the profession, and their utter ignorance of the first principles of that science upon which they would fain engraft their own so-styled discoveries. If we are right, so successful has the author been in his imitation, that he will be fortunate indeed if he escape the contempt and obloquy to which writers of this stamp are exposed.

Thus the book itself has nothing to attract our notice ; but the subject of which it professes to treat, and on which it says very little, is one well deserving the attention of the practical physician. Every medical man, in examining his patient, looks at the tongue, and takes it as a guide either in the diagnosis or treatment of disease. It is to be presumed, then, that the tongue does furnish certain indications ; and it is well that we should understand what these are, how they are produced, and how far they can be relied upon as guides in the treatment of disease.

With the healthy appearance of the tongue we are of course familiar. Its surface is smooth, shining, and red, slightly granulated towards the point, and studded with pointed villi and hemispherical glands towards its base. Its surface is moist, and its movements free.

The changes to which it is subject in disease may be all classed under the heads of

- 1st, Alterations in volume.
- 2d, \_\_\_\_\_ in form.
- 3d, \_\_\_\_\_ in its movements.
- 4th, \_\_\_\_\_ in colour.
- 5th, \_\_\_\_\_ in moisture.
- 6th, \_\_\_\_\_ in its coatings.
- 7th, \_\_\_\_\_ in eruptions on its surface.

Of these alterations, some are certainly of much more importance than others, but they are all occasionally useful in the diagnosis of disease.

The volume of the tongue is more affected by diseases proper to that organ than by those which merely affect it secondarily. The slighter degrees of increase in volume, as evidenced by the marks of the teeth impressed on its edges, are common in many chronic affections, more especially those of the digestive organs. In some diseases where the respiration is impeded, the arrest of the circulation produces an accumulation of blood in the tongue, which gives rise to swelling of that organ. We find Hippocrates remarking, that a red tongue in quinsy or peripneumony is a bad symptom. (*Epid. III. 1 Aegr. 7. vii. 19*). It is very evident that this can only arise from such an appearance of the tongue affording an indication of the extent to which the breathing is affected.

As an indication of the extent to which salivation has proceeded, the swelling of the tongue is often worthy of attention. A curious case is narrated in Richerand's *Physiology* of a patient whose tongue and salivary glands were swollen on the left side only. He had been salivated by friction with mercurial ointment on the left thigh.

Diminution of the size of the tongue is a much more common symptom than enlargement. It is often met with in severe fevers and malignant diseases ; and when accompanied, as it frequently is, with a tremulous state, it is a symptom of serious import. The contraction of the muscles of which the tongue is composed, and by which the diminution of its volume is effected, also gives rise to alterations in its form.

A singular case is recorded in which one-half of the tongue became pale, discoloured, atrophied, and wrinkled, without any alteration of sensibility. The patient died with symptoms of palsy ; and dissection revealed an hydatid cyst in the left fossa occipitalis, compressing the glosso-pharyngeal nerve. (*Bull. de la Soc. Anat. No. 44.*)

Changes in the motions of the tongue are chiefly evinced by the impedi-

ment to speech and mastication which they offer, or in the inability of the patient to protrude it in a straight line. Chomel has observed, that we sometimes imagine the latter state to exist when it really does not; for, as we judge of the direction of the tongue by its relation to the commissures of the lips, so it will often happen, that where the cheek is distorted, the commissure, being drawn to one side, will produce an appearance of distortion in the protruded tongue, which does not really exist. When this symptom is present, it is an unequivocal evidence of the existence of paralysis in some of the muscles by which the movements of the tongue are regulated. A greater or more general loss of power will, of course, render the tongue incapable of producing those movements by which pronunciation is effected, and consequently denotes a still more serious lesion of the controlling organ. We must not, however, rashly conclude that in every case in which the patient is unable to speak, this symptom is dependent on a cerebral lesion. M. Piorry relates the case of a fever patient in the Hotel-Dieu, who was found one day unable to speak. The nose was choked up, the mouth open, the tongue dry, and the patient was quite unable to articulate a syllable. The hospital pupils at once attributed this to some concomitant cerebral affection. M. Piorry, however, ordered the mouth to be washed, and the coatings of the tongue removed, when the patient instantly spoke distinctly. M. P. has observed more than once this inability to speak, arising from mere dryness of the tongue and nerve.

Among the important symptoms furnished by the movements of the tongue, trembling of that organ must not be omitted. This of course indicates a deficiency in the power by which the muscular motions are regulated and controlled. It frequently occurs towards the close of febrile and other severe disorders, denoting the failure of the vital powers, and too often announces the speedy approach of death. In the works of Hippocrates it is repeatedly alluded to. He tells us that a tremulous tongue in fevers is a symptom of delirium (Coac. 233, Predict. i. 20). It is obvious that both the state of the tongue and the delirium are evidence of serious implication of the cerebral functions, and are therefore exceedingly likely to coexist. In the same book we are informed, that a tremulous and black tongue in fevers is generally a symptom of a fatal termination (Coac. 235); again, that when a tremulous tongue is combined with redness of the nostrils, it often portends a dangerous diarrhoea (Coac. 231). Of the truth of this latter inference we can present no confirmation; but every physician must have had repeated opportunities of satisfying himself as to the reality of the former.

The colour of the tongue more usually depends on the coatings with which its surface is frequently invested. These are to be separately considered, and we have now, therefore, only to speak of actual changes in the organ itself. It may be redder or paler than is natural; it may be livid, spotted, or even black. The colour of the tongue generally corresponds with that of the gums and lining membrane of the cheeks, and affords us a delicate test, in many cases, of alterations in the quality of the circulating fluid. In infants it is especially useful, and enables us often to ascertain the effect of depletion on their delicate systems. It is necessary for us to be aware that the tongue and lining membrane of the cheek and gums are, at the period of birth, usually red. "All these parts," says Billard, "are congested with blood analogous to that of the external integuments; they might be pronounced inflamed on a superficial inspection, but against such an error we should be carefully guarded. They gradually lose this deep



colour, and soon acquire that of the rose, which is, for the most part, the colour of the skin; for, in children whose integuments are very pale, the buccal membrane, if it be not inflamed, is itself but faintly coloured." (Stewart's translation of Billard, p. 156.) In chlorotic young women we are often called to prescribe for pains and stitches in various situations, and it has not unfrequently happened, that these have been mistaken for the symptoms of inflammatory action, and treated as such. This mistake is unpardonable where the complexion decidedly indicates the existence of chlorosis; but it will occasionally happen, that, without much change in the appearance of the countenance, symptoms of chlorosis may be present. We have always observed, that the tongue, gums, and mucous membrane of the mouth, are the first to exhibit the unnatural pallor. If, then, on examining these, we find that their usual colour is absent, we ought certainly to pause before having recourse to depletion.

Unnatural redness of the tongue may indicate a state of general plethora. By many authors it is looked upon as certain evidence of the existence of inflammatory action in some part of the gastro-intestinal mucous tract. The plethora, which the redness of the tongue indicates, may be general throughout the system, or it may be confined to that organ itself, in which case it usually arises from some impediment to the circulation. This is frequently the result of diseases of the respiratory organs, and it was probably from observing this, that Hippocrates was led to remark, that redness of the tongue in quinsy or peripneumony was a bad symptom (*Epid. iii. 1*). That redness of the tongue often coexists with inflammatory action in the intestinal canal, it is impossible to deny, but we possess the evidence of the first observers, to prove that there is no necessary connexion between the two. We shall fully consider this subject when examining the indications furnished by the tongue in particular classes of diseases.

Lividity, and even blackness of the tongue, may, like the less deep shade of red, be the result of congestion from impeded circulation. The black colour more frequently arises from the coating of the tongue, although in certain cases it seems to be seated in the organ itself, and then usually depends on congestion. In the eruptive fevers, the appearance of the tongue is peculiar. In scarlatina it is unusually red and furred, and through the fur the red elongated papillæ may be seen projecting. In smallpox again, the redness is still more decided; the tongue is usually swollen as well as injected, and in some cases is, along with the salivary glands, the seat of a true inflammation. In measles the tongue is usually of a deep rose red, often mottled.

While, in its natural state, the tongue is bedewed with moisture, in many diseases it becomes dry. This dryness may exist in various degrees, from the slightest kind merely perceptible to the patient himself, to an extent which, occurring in acute or chronic affections, not unfrequently denotes great irritation of the system, and always makes the experienced physician dread approaching dissolution.

A dispute exists as to the proximate cause of the dryness of the tongue. Laudré Beauvais (*Semeiotique, ou Traité de Signes des Maladies*) is inclined to attribute dryness of the tongue either to spasmodic action preventing the secretion of the natural quantity of saliva, or to an excess of absorption, by which it is removed as rapidly as it is secreted. This position is disputed by Piorry (*Traité de Diagnostic*), who contends that the dryness is in every case to be attributed to the evaporation of the saliva produced by the passage of a current of air over the

upper surface of the tongue. This view he supports by the following statements.

1st, In many cases of dryness of the tongue, this symptom is obviously to be attributed to temporary closure of the nostrils, and the consequent passage of the whole of the air inspired over the surface of the tongue.

2d, In other cases where this symptom occurs, the respiration was rendered more frequent by various morbid states of the thoracic and abdominal viscera.

3d, In four cases where the upper canine and incisor teeth were wanting on one side, in patients affected with severe enteritis, the tongue was dry only in the situation over which the current of air would pass from the openings left by the teeth towards the back part of the mouth.

Lastly, That persons who sleep with their mouths open, generally awake with the tongue dry in the mornings.

Rasciborski (*Précis Pratique et Raisonné de Diagnostic*) has well remarked, that the dryness of the tongue by no means corresponds with the difficulty of breathing; that, on the contrary, the tongue is not so dry in pneumonia and pleurisy, where the respiration is hurried, as in many diseases where this is not the case. In fever, for example, we find the tongue usually dry, almost from the commencement of the disease. Dryness is in this affection a therapeutic guide much relied on; and this fact would appear to confirm the view of Landré Beauvais, for fever is a disease in which most of the secretions are arrested. Dryness of the tongue in fevers did not escape the attention of such minute observers as Hippocrates and Sydenham. Accordingly we are informed by the former that a parched tongue without thirst is a bad symptom in fever (*Prædict* i. 16); and Sydenham remarks, that a black and dry tongue is a common symptom in putrid fevers, in autumnal intermittents, and in continued fevers of the same constitution (*Epid.* 3).

The day is not yet gone by when the tongue is spoken of as the faithful mirror of the intestinal canal, the unfailing guide to therapeutic indications. It is to the coatings of the tongue that physicians of this school are fondest of appealing, and it is from their colour and thickness that they derive their indications for the treatment. Louis and Andral have distinctly proved, as we shall hereafter show, that there is no connexion of the kind alleged between the state of the digestive organs and that of the tongue, and have therefore exploded the ancient theory of seeking in the appearance of the one an index to the state of the other.

The author of the work before us admirably satirizes the ignorance of quackery in reference to this subject. To have supposed for an instant those whom he was personating to be acquainted with the writings of such men as Louis and Andral, would have been insulting the common sense of his readers; he therefore pretends to have *discovered* the existence of a connexion between the tongue and intestinal canal in their morbid states, and then *demonstrates*, with most convincing accuracy, that each individual part of the whole thirty feet of the intestinal canal is represented by a corresponding portion of the lingual surface. Were we disposed to be critical on a book which has afforded us much amusement, we might remark that such absurdity as this is almost too gross to be mentioned even by quackery, and that our author has perhaps too much exaggerated

his caricature. It is admirably suited, however, for the taste of the public, and will, we doubt not, be mistaken by many for sober earnest, and find its admirers accordingly.

The coatings of the tongue are confined to its upper surface, are of various thickness, and variously disposed. They present different shades of colour, the more usual being white, yellow, green, brown, or black. In some cases they are readily removed, though liable to reappear speedily ; while in others, the most diligent scraping fails to clean the surface. A furred tongue is not necessarily a sign of disease. In some persons it is constantly present, in others it is induced by abstinence, or temporary closure of the nostrils forcing the patient to breathe through the mouth. The coatings have been analyzed by Laugier, Denis, and Vauquelin, and found to resemble very much in their chemical composition the tartar of the teeth. Their source is obviously the saliva and mucus of the mouth. Piorry has shown by experiment that the saliva of an individual in perfect health may, by being dried at a temperature of 104 degrees Fahrenheit, be made to present every possible appearance, from the white pultaceous tongue to which the name of mucous has been given, to the most yellow or black of bilious or putrid fevers, merely by altering the rapidity with which the dessication is conducted. From this he has been led to conclude, that, as in the case of the moisture of the tongue, the rapidity with which the air passes over it has the chief effect in modifying the appearance of its surface. This appears too exclusive a view of the subject. It is partially disproved by the quotation we have already quoted from Rasciborski, and probably does not sufficiently admit the modifying influences of changes in the secretion. The eruptions on the surface of the tongue are of little importance in diagnosis, because they attend many chronic diseases which have the effect of inducing weakness of the system ; but for the same reason they are of great importance in prognosis, ushering in, as they usually do where they occur in the chronic diseases of adults, a fatal issue. The appearance on the tongue to which the name of aphtha or thrush has been given is the most common of these eruptions. The essence of the disease consists in the elevation and detachment from the corion of the mucous epidermis by a fluid secreted under it. The disease is by no means confined to the tongue, but may occur in any situation where the mucous surfaces are covered with epidermis, and is accordingly found in the whole mucous membranes of the mouth, on the inner surface or at the angles of the lips, in the vagina, prepuce, anus, and rectum. The appearances are obscurely noticed by Hippocrates (Aph. xxiv. sec. 3), and more distinctly referred to by Aretæus (De Tonsill. Ulceribus, cap. 9). The true seat of this affection has occasioned much controversy, and Bichat puts a series of questions with the object of settling the question (Anat. Gen., vol. iv. p. 437). One of the most interesting contributions to their pathology is to be found in the work of Gardien (Traité d'Accouchements, vol. iv. p. 115), who has examined the descriptions of this disease and the opinions which have been advanced upon it from the earliest antiquity down to the present time.

Very similar to the eruption of aphthæ, and often confounded with it, is that concretion of mucus on the surface of the inflamed tongue to which the name of *muguet* has been given. According to Billard, it may appear in three forms,—1st, That of a membrane entirely covering the tongue or spread over the other parts of the buccal cavity ; 2d, That of variously sized threads, occurring in the same situation, though usually occupying the internal surface of the lips and cheeks in preference to that of the

tongue ; and, 3d, In the form of small white points, usually occupying the extremity and edges of the tongue, though occasionally occurring on the parietes of the mouth. M. Lelut, from a repeated examination of this false membrane, has been led to believe that it consists chiefly of mucus. He found it affected by chemical agents in a way very similar to that of mucus, as described by Fourcroy, Schwillgué, Vauquelin, Berzelius, and Hatchett. The same chemical agents were found also to have a very similar effect on the buff of the blood, the false membranes of the serous membranes, the bladder ; and of croup, in the experiments of Schailgué, Double, Guersent, Desrouelles, and Bretonneau. (See M. Lelut's paper, Arch. Gén. de Med., March 1827, and Billard on Diseases of Children). As a symptom, it is chiefly associated with inflammatory disease of the alimentary canal. In fifty cases which were fatal either from the progress of the disease or from some other affections, Billard found as complications, inflammation of the cerebral-spino apparatus in two children, of the skin in four, of the respiratory organs in twelve, of the digestive in thirty-two. The disease therefore is not always a sign of gastritis, for even of these thirty-two cases, in ten the stomach was not affected ; but it co-exists almost always with an inflammatory state of some part of the intestinal canal.

There are occasionally observed on the upper surface of the tongue, especially towards its point, small red patches, which were considered by M. Roux as an evidence of the existence of syphilitic virus : this wants confirmation. There can, however, be no doubt of the syphilitic origin of those grayish ulcers which are occasionally found at the sides and point of the tongue, and which are apt to be confounded with those impressions of the teeth which we have already described. Having thus fully occupied the space allotted to us by a description of the appearances which the tongue presents when altered by disease, we must reserve for a future number the conclusion of this paper, and shall then endeavour to present a summary of the appearances exhibited in particular diseases, and of the diagnostic and therapeutic indications which we are justified in founding upon them.

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*Medical Report of the Case of Miss H——— M———.* By T. M. GREENHOW, Fellow of the Royal College of Surgeons of England ; Senior Surgeon to the Newcastle-upon-Tyne Infirmary and Eye Infirmary. London, 1845. Pp. 24.

In our January number we noticed at considerable length the statements of Miss Martineau, relative to her alleged cure by animal magnetism. Since then the pamphlet now before us has appeared from the pen of Mr Greenhow, the brother-in-law and professional attendant of that unfortunate lady. To us its perusal has been highly satisfactory, confirming as it does in every important particular the view which we took of the case previous to the publication of any professional information.

It is but justice to Mr Greenhow, however, to state, that he never supposed the disease to be malignant ; on the contrary he states,—

“ Knowing well that no symptoms of malignant disease of the affected organ existed, I always believed that a time would arrive when my patient would be relieved from most of her distressing symptoms, and released from her long-continued confinement. The catamenial crisis appeared the most

probable period, but I did not despair of this happening sooner ; though she never willingly listened to my suggestions of the probability of such prospective events, and seemed always best satisfied with anything approaching to an admission that she must ever remain a secluded invalid. This state of mind, perhaps, may be considered as an additional symptom of the morbid influence over the nervous system of the class of diseases in which this case must be included."

The above passage confirms in every particular the opinion we had been led to form of Miss Martineau's state of mind from the perusal of her work, "Life in the Sick-room," though how Mr G. could feel it right, "believing that a time would arrive when his patient would be relieved from most of her distressing symptoms," ever to make "anything approaching to an admission that she must ever remain a secluded invalid," we are altogether at a loss to conceive.

Our experience of the effects of the continued use of iodine had nearly convinced us, from the statements of Miss M.'s feelings, detailed by herself, that she had been using this remedy, and this is confirmed by the statements of Mr G. "It was on this account that I was induced to propose a course of iodide of iron, which, with few and short intervals, was persevered in till July or August of the present year."

The iodide of iron was first given in October 1841, so that she took it for three years consecutively !

Mr Greenhow's report so completely confirms the view we have already taken of Miss Martineau's alleged cure, that we do not consider it necessary to enter again on the discussion, but shall content ourselves with placing before our readers the report of the examination first made by Mr G., and that performed after her alleged cure, along with the opinion of Sir C. M. Clarke. The date of the first is July 1839.

"The uterus was found large, retroverted, and fixed low down in the vagina, the os and cervix uteri occupying the anterior part of the cavity, and the body and fundus of the organ passing horizontally backwards, till the latter approached the sacrum. The enlarged uterus thus occupying the antero-posterior diameter of the pelvis, pressed, respectively, against the urethra and neck of the bladder and the lower part of the rectum ; and the embarrassment occasioned by this pressure produced corresponding symptoms, which were often the occasion of great uneasiness and inconvenience. While the fundus uteri extended backwards towards the sacrum, the cervix was bent downwards behind the pubes, nearly at a right angle, and hanging from the lip was a small polypus, which was soon removed ; but without any alleviation of symptoms."

The patient was examined by Sir Charles Clarke in September 1841.

"After a very careful investigation of the case, Sir Charles gave an opinion verbally, which I was induced afterwards to request him to express in writing. In a note dated September 30, 1841, he says,—'It was my intention to say that I perfectly agreed with you as to the nature of the complaint ; that the disease was an enlargement of the Body of the uterus ; that the Neck of that organ was perfectly healthy ; that although the majority of these cases of enlargement of the Body of the uterus did not yield to external applications or to internal remedies, that, nevertheless, the disorder produced mechanical symptoms only, and *did not lead to any fatal result*, to which termination disease of the neck of the uterus did lead.

" 'Farther, I mentioned that in an instance or two I *had* known such complaints as Miss M.'s subside, and that I would suggest the employment

of certain means for this desirable purpose.' The means proposed by Sir Charles M. Clarke were the continued external use of iodine ointment."

A change in the complaint began about April 1844.

"On the 2d of April 1844, I was first enabled to detect a slight change in the condition of the uterus. The attachment of the fundus was less fixed, and it could be slightly raised from its position. The membranous pendicle described above and the general position of the organ remained as on former examinations."

The mesmeric treatment was commenced on the 22d June 1844, and the following is the report of an examination made on the 6th of December, long after Miss M. reported herself quite cured.

"December 6.—Again I made a careful examination into the state of Miss H. The fundus uteri is more disengaged than at the last examination, and admits of being raised somewhat higher. It is certainly *less fixed*, and in this respect has improved at each time of examination since 2d April, when the first degree of improvement was observed. The retroversion continues, the fundus still extending towards the sacrum, while the os uteri approaches the pubes—the organ remains large and firm, and is yet turned back nearly at a right angle from the cervix uteri. The two membranous pendicles remain hanging out of the os uteri, as at the last examination. The health is represented as quite good, and the catamenia as regular—the nervous pains and irritations having all subsided. The person is less, but as abdominal distention depended principally upon the gaseous and other contents of the intestines, and in a slight degree only on the uterine tumour, it is probable that renewed habits of activity have greatly contributed to restore the symmetry of the person in this respect."

Mr Greenhow concludes his report of the case as follows :—

"In the history of this case, it is probable that the advocates of mesmerism will find reasons and arguments in support of their opinions. But the experienced practitioner, carefully distinguishing the *post hoc* from the *propter hoc*, will have little difficulty in bringing the whole into harmony with the well-established laws of human physiology.

"As regards the pathology of the case, he will conclude that the condition of the uterus in December is but the natural sequel of progressive improvement begun in or antecedent to the month of April; and as regards the relief from the distressing nervous symptoms connected therewith, that the time had arrived when a new and powerful stimulus only was required to enable the enthusiastic mind of my patient to shake them off.

"After bestowing my best consideration on the subject, this is the conclusion which most strongly forces itself on my own mind."

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*Outlines of Chemistry, for the Use of Students.* By WILLIAM GREGORY, M.D., Professor of Chemistry in the University of Edinburgh. Part I. Inorganic Chemistry.

THE appearance of this work from the pen of our accomplished Professor of Chemistry will be welcomed by all who are engaged in the study of the science it discusses. It is certain to prove an acceptable substitute for the text-books formerly in use among our students, which were once suitable enough, but had ceased for some time to represent the advancing state of chemistry.

Dr Gregory's work contains an able exposition of the latest views and discoveries, especially those of the German chemists, and supplies this in the fewest possible words, but with great clearness and admirable perspicuity. As a work to be placed in the hands of beginners, it should supplant every other.

The part already published treats only of inorganic chemistry. A second part devoted to organic chemistry is promised speedily, and this will complete the work. No reference is made to heat, light, electricity, or magnetism; and the professor devotes a considerable portion of his preface to a vindication of the propriety of omitting all discussion of these in courses of lectures on chemistry.

As this is a point of some importance in reference to the best method of imparting a knowledge of chemistry, especially to students of medicine, we shall offer a few remarks on the subject.

Dr Gregory's reasons for omitting all notice of the imponderables are threefold.—1st, "The imponderables are now very generally, as they ought to be, taught as a part of physics by the lecturers on natural philosophy, so that the teacher of chemistry is not absolutely required to do more than to explain their most important bearings on chemistry."

2dly, "The student of chemistry must obtain that knowledge elsewhere, just as he does his knowledge of arithmetic, mathematics, or mechanics, all of which are highly useful to him, but which the chemist is not expected to teach."

3dly, The saving of time effected in this way is so great, that Dr Gregory has "been enabled to devote about three months out of five and a half to organic chemistry, a branch of the subject of the highest importance to medical students," &c.

These arguments are equivalent to this, that the medical student may and should learn the imponderables in the natural philosophy class-room, and that his time should be devoted, while attending lectures on chemistry, to the consideration of the ponderable elements, and especially to organic chemistry.

We need scarcely say that we entirely agree with Professor Gregory that it is a most unnecessary waste of time for the lecturer on chemistry to discuss the same topics as the teacher of natural philosophy; and we trust that one of the first fruits of any medical bill which may be passed will be the subordination of these classes to each other, and their regulation so that the natural philosophy class shall always be attended before the chemistry one, and no unnecessary repetition occur in the latter of what has been gone over in the former. But even if this arrangement were at present in force, it would not excuse the chemist from some consideration of the imponderables. In the way of repetition, if not of primary exposition, he would require to secure on the part of his students a knowledge of the thermometer, and at least of latent and specific heat. The chemical action of light also, or what has been named actino-chemistry, belongs entirely to him, and could not with either propriety or profit be discussed in the natural philosophy class-room. Galvanic electricity, both in reference to the chemical theory of its origin, and to the laws regulating its action in effecting chemical decomposition, lies equally beyond the province of the lecturer on natural philosophy, and surely should be taught to every one engaged in the study of chemistry.

If this be acknowledged, it appears to us that two months and a half can never suffice for the proper exposition of inorganic chemistry along with

such consideration of the imponderables as we have recommended. Even excluding the imponderables, we are at a loss to understand how the discussion of the necessary topics can be managed in the time mentioned. There are some forty of the elementary bodies demanding special notice ; many of them, such as oxygen, hydrogen, chlorine, potassium, &c., occupy several days each ; and the lecturer has in addition to expound the atomic theory, the theory of gaseous volumes, diffusion of gases, chemical affinity, crystallization and isomorphism, the theories of acids, constitution of salts, &c., &c., &c. We should feel inclined to add at least another month to the period proposed by Dr Gregory.

But the discussion of heat, light, and electricity cannot be omitted, as our chemistry classes are at present constituted. Graduates in medicine of the University of Edinburgh are not required to attend natural philosophy ; and the great majority have not attended it at the period of their studying chemistry. Licentiates of the College of Surgeons of Edinburgh need not attend natural philosophy for more than three months, and those who attend a winter course, do so the first year of their study along with a chemistry class. We believe it is much the same all over the country, and that no lecturer on chemistry can safely take for granted that any but a very small minority of his class have studied physics before coming to him. In Edinburgh, we are sure that it would be most unwise to do so. All this considered, it would seem that four months at least must be given to the imponderables and inorganic chemistry, and that only the remainder of the course can be afforded to organic chemistry.

Assuredly we do not think three months too long a period for students of medicine to spend on organic chemistry ; but we think it much too large a portion of a course of only five months and a half duration on *all* chemistry, especially when this is attended in the first year of medical study. At that stage of his progress, the student is only picking up his first rudiments of anatomy, and is totally ignorant of botany, of animal and vegetable physiology, of surgery, of practice of physic, and of pathology. We cannot think it advisable to hurry such a person in the space of two months and a half over every other department of chemistry, and expect him to take pleasure in, or profit by, three months devoted to the difficult and only partially wrought out details of organic chemistry, much of which cannot be appreciated without a knowledge of branches which he has not yet studied. It seems to us, that such a course as Dr Gregory proposes could only be relished by far advanced students of medicine, and that for all others it implies a very undesirable allotment of time to the several subjects which are discussed by the lecturer on chemistry. We might further question the policy of omitting from a course of chemical lectures subjects so important, and so attractive in their experimental illustrations, as heat, light, and electricity. It is very difficult to keep up the attention of a class during six months, and we believe the time apparently lost in occasional lectures on these subjects, is in reality fully accounted for in the increased attention of the students.

The interest we take in the progress of chemistry as a branch of medical study has induced us to make these remarks. They do not affect our opinion of the value of Dr Gregory's work, which we again recommend to the attention of our readers.



*Thoughts on Physical Education and the True Mode of Improving the Condition of Man.* By CHARLES CALDWELL, M. D., Professor of the Institutes of Medicine, &c., Louisville, Kentucky. Edinburgh, 1844.

IN our September number we reviewed a work on Mental Hygiene by an American writer, Dr Sweetser. This is also a reprint from an American work on a similar subject, by Dr Caldwell of Louisville. It was first published in Boston in 1834, and was originally a discourse delivered to a convention of teachers in Lexington, Kentucky. Like the work referred to, it is one replete with sound practical injunctions on a subject too little attended to or understood in our schools of instruction, the training of the brain. It contains also many useful instructions on the training of the other organs of the body—on the subjects of diet, exercise, cleanliness and ventilation. The bulk of the work, however, is devoted to the consideration of the proper education of the *mind*, considered phrenologically, as consisting of the functions of a series of bodily organs.

The importance of the subject is illustrated by a reference to the religious, commercial, and political strife which continually agitates the Union. And certainly, if the statement incidentally cited by the author, on the authority of Dr Brigham, be correct, that in the state of Connecticut there is one insane person to every 262 inhabitants, there is much room for the inference that these causes are fertile sources of disease in the United States.

Although we are fortunately not agitated by so much of the *go-ahead* spirit as our friends across the water, we have quite enough of it to render the present work a very acceptable and useful contribution to all those who are interested in the improvement of the moral, intellectual, and physical condition of our race. The rage for infant schools, the premature or undue exercise of the mental faculties, the education of one set of faculties, or of one faculty to the exclusion of others, and the neglect of bodily exercise, is with us, it must be admitted, a constant source of disease, and any work which brings before the medical or general public rational principles for the education of the body and the discipline of the mind, founded upon philosophical and physiological considerations, must serve most important ends. And we hail with pleasure the publication of such works, especially in such a form as to render them easily and generally accessible, as one of the most pleasing signs of the times.

Were we inclined to be hypercritical, we might find fault with the work before us on account of the determined phrenologicalism of its author. But the basis which this system affords for the elucidation of sound views regarding the education of the mental faculties is too important and practical to allow us to carp at the imperfections of phrenology as a science. Believing the general principles, we are not inclined to find fault with the details in a work which is designed for the improvement of our systems of education, and not for the exposition of phrenological doctrines.

The general principles on which the work is based are thus announced by the author: "The organized system of man constitutes the machinery with which alone his mind operates, during their connexion as soul and body. Improve the apparatus, then, and you facilitate and improve the work which the mind performs with it, precisely as you facilitate steam

operation, and enhance its product, by improving the machinery with which it is executed. In the one case, steam, in the other, spirit, continue unchanged ; and each works and produces with a degree of perfection corresponding to that of the instrument it employs.

"As respects several of the functions of the mind, the correctness of the foregoing theory is universally admitted. Seeing, hearing, tasting, smelling, and feeling, as well as voluntary muscular motion, are as true mental operations, as judging, reasoning, remembering, or calculating numbers. And the former are as susceptible of improvement as the latter. But when improved, no one considers the result as consisting in any amendment of simple spirit, but of compound organized matter. When, for example, vision is improved, the amendment is uniformly referred to the eye, the optic nerve, and that portion of the brain immediately associated with them ; they being the organs by which the mind sees, and without which it cannot see. Is hearing improved ! For the same reason it is not the mind, but the auditory apparatus, that is amended. Of the other senses the same is true. If either of them is improved, it is the organ that is meliorated in its condition, not the mind that uses it. Nor is this truth less obvious as respects the instruments of voluntary motion. The operadancer, the tumbler, and the swordsman, do not, in acquiring expertness in their occupations, improve their minds, but their muscles and joints, with the nerves and portions of the brain that have the governance of them. These positions are so plain, that to state them is to prove them.

"Respecting the higher mental operations, the same may be affirmed with equal safety. In performing them, the mind works with the brain as its machinery, as certainly as it does with the eye in seeing, or the muscles in dancing and swordsmanship. Is any form of memory—say the memory of words, or that of places—rendered more apt and retentive by judicious exercise ? We have no reason to believe that the mind or spirit is amended in this instance, any more than in those heretofore enumerated. It is a portion of the brain—the organ of language or locality—that is amended. By practice, man becomes more powerful and adroit in reasoning and judging. Here again the mind is not changed. The belief to that effect has no shadow of evidence to sustain it. The improvement in this case, as in the preceding ones, is confined to the organs with which the mind reasons and judges."—(Pp. 6, 7.)

Proceeding upon these principles, after more fully illustrating them, our author defines *physical education* to consist in that "scheme of training which contributes most effectually to the development, health, and perfection of living matter. As applied to man, it is that scheme which raises his whole system to its summit of perfection. In this are included the highest tone and vigour of all parts of the body, that are consistent with a sound condition of them ; for the tone of a vital organ, like that of a musical instrument, may be too high as well as too low."

In illustrating succinctly the principles of physical education, founded upon this extended view of the objects which it comprises, Dr Caldwell commences with the original constitution of the body as derived from the parents, and inculcates, with much force and propriety, the importance of well-assorted marriages. He believes in the transmission to the offspring of acquired, as well as of congenital peculiarities or propensities ; and while he deprecates, with all writers on this subject, marriage with persons of phthisical, rickety, or otherwise unsound constitutions, and intermarriages among family connexions, his principles would lead still further, and tend

to discountenance marriages between persons in either of whom constitutional or mental peculiarities were accidentally or temporarily produced. Early marriages are also considered by Dr Caldwell as fraught with consequences calculated to deteriorate the offspring.

Many excellent rules are laid down, and commended by apt and forcible illustrations, regarding the diet, cleanliness, clothing, and exercise of children; the importance of free ventilation and regulated temperature in their nurseries; and the necessity of watching and restraining the development of the passions at an early age.

The too early and undue exercise of the intellectual faculties is deprecated, and the author passes his judgment upon "infant schools," in terms in which we entirely concur. "Early prodigies of mind," he observes, "rarely attain mature distinction. The reason is plain: their brains are injured by premature toil, and their general health impaired. From an unwise attempt to convert at once their flowery spring into a luxuriant summer, that summer too often never arrives. The blossom withers ere the fruit is formed. For these reasons, I have never been an advocate of 'infant schools.' Unless they are conducted with great discretion, they cannot fail to eventuate in mischief. They should be nothing but schools of pleasurable exercise, having little to do with books."

"Instead of seeing infants confined to inaction in crowded school-rooms, with saddened looks, moist eyes, and aching heads, we should then meet them in gardens and lawns, groves and pleasure-grounds, breathing wholesome air, leaping, laughing, shouting, cropping flowers, pursuing butterflies, collecting and looking at curious and beautiful insects and stones, listening to birds' songs, singing themselves, admiring the bright blue arch of the heavens, or gazing at the thickening folds of the thunder-cloud, and doing all other things fitted to promote health, develop and strengthen their frames, and prepare them for the graver business of after-life. And, instead of pale faces, flaccid cheeks, and wasted bodies, we should find them with ruddy flesh, firm muscles, and full and well-rounded limbs.—Exercises and pastimes such as these constitute the only 'Infant School' that deserves to be encouraged; nor will any other sort receive encouragement when the business of education shall be thoroughly understood."

The education of the skin, the digestive and respiratory organs, are successively considered. Under the second of these heads, Dr Caldwell remonstrates in strong terms with his countrymen on the habit of eating *too much*. We wish he had said a few words on the habit of eating *too fast*, and the important duty of mastication. With regard to quantity, he says, "I confidently believe that the thirteen or fourteen millions of people inhabiting this country, eat more trash, for *amusement and fashion's sake*, and to pass *away idle time*, than half the inhabitants of Europe united. Unquestionably they consume a greater amount of such articles, in the proportion of 5 to 1, than an equal number of the people of any other country I have ever visited. Shame, if not prudence, should drive them from a practice which might well be called disgusting. No wonder that European travellers ridicule us on account of it."

With reference to the education of the respiratory organs, after noticing the importance of wholesome air, free ventilation of dwelling-houses, &c., he advocates the practice of singing, declamation, and other forms of loud speaking, as highly conducive to health. In regard to children, he observes, "crying, within proper bounds, is *good exercise* for the lungs and other vocal organs of children, and suitable exercise is a certain source of strength

to every portion of the body. The late Professor Rush, who was noted for his pithy, antithetical, and sagacious remarks, said in his lectures, that though the usual adage respecting children was 'laugh and be fat,' he had learned from observation that they might also 'cry and be fat.' And he was right."

The influence of light as well as of air on the development and health of the body, is properly pointed out. And many excellent and judicious hints are given on the subject of exercise, and the various modes in which it may be enjoyed.

The *physical education of the brain* occupies the next and largest portion of the work. Proceeding phrenologically, the author contends for the importance of educating the different organs of the mind, and points out the danger of undue exercise or excitement of one organ to the neglect of others. The object to be attained by the regulated and equal development of all the organs, is the development of their corresponding faculties, and the production of a well-balanced mind. The danger of producing insanity, or an uncontrollable tendency to various forms of vice, by an opposite course of training, or by indulgence from want of training, is pointed out and illustrated by examples. The means of obviating a natural or hereditary tendency to depraved conduct is shown to consist in the education and exercise of the moral organs. All this is instructive, although to us much of it appears to be trite. Many old-fashioned truths, such as "train up a child in the way he should go, and when he is old he will not depart from it," &c., are here clothed in a phrenological garb, and made to look spruce, and, to a phrenologist, scientific, and philosophical axioms. We are not inclined to find fault with them, if in this mode of enunciation they appear to have a more intelligible and memorable form.

The influence of undue exercise of the mental faculties in the production of dyspepsia and other derangements is also very fully explained and illustrated. The consideration of the means of alleviating or curing such ailments, leads our author to a review of the means which have been adopted in the penitentiary establishments of the United States for the correction of vicious and criminal propensities, and the establishment of habits of virtue and morality,—a review which certainly argues strongly for the principles which have been followed in the prison discipline of the States.

An examination of the effects of *dress* on the health concludes the discourse. Here, after anathematizing tight boots and shoes, buckskins, and tight cravats, our author enters his most elaborate and solemn protest, introducing the subject with much transatlantic delicacy, against the evils of *tight corsets*. Agreeing as we do most cordially and fully with all that he has written on the subject, we cannot help remarking, that the illustrative wood cuts are far from being calculated to justify his remarks, or to commend them to the eyes as well as the judgment of his readers. The figure No. II., "that of a well corseted modern beauty," may pass muster,—especially as it is intended to demonstrate the ugliness of corseting; but the figure No. I., which it is stated "is a correct outline of the Venus de Medici, the *beau ideal* of female symmetry," appears to us to be as unlike "the Venus," or any other Venus, not excepting the Hot-tentot one, which we ever saw, as can well be imagined. If it is a correct outline of the goddess, as Dr Caldwell assures us it is, she certainly deserves great credit for self-denial in not using corsets; but, with his leave, we would strongly recommend her, as a substitute, to put on a "*creneline*."

## PART III.—PERISCOPE.

## ANATOMY AND PHYSIOLOGY.

*Alleged Synchronous Contraction of the Arteries.* (From Dr Holland's Philosophy of the Moving Powers of the Blood.)

"AFTER the preceding investigations, the pulse naturally comes under consideration. There is now little difference of opinion respecting the cause of it. The view which Parry entertained is generally admitted, and its accuracy appears to be placed beyond all question by elaborate and carefully conducted experiments. There are points, however, connected with the subject on which writers are by no means agreed. It is contended by one class that; though the pulse is produced by the impulse of the left ventricle, the contractions of the arteries in different parts of the body are not synchronous, but rapidly successive. The earlier physiologists distinctly state that the contractions of the arteries are synchronous with the systole of the heart, and my own researches are decidedly in favour of this conclusion. The following extract gives some of the authorities who think otherwise:—

" 'Weitbrecht, Liscovius, and E. H. Weber\* have shown, however, that this is not the case. The pulsation of the arteries near the heart is synchronous with the contraction of the ventricle. But at a greater distance from the heart, the arterial pulse ceases to be perfectly synchronous with the heart's impulse, the interval varying, according to Weber, from one-sixth to one-seventh of a second. Thus, the pulse of the radial artery even is somewhat later than that of the common carotid. The pulse of the facial, at about the same distance from the heart, is isochronous with the pulse in the axillary artery; while the pulse is felt somewhat later in the metatarsal artery on the dorsum of the foot, than in the facial artery and common carotid.—Weber† has explained the cause of this difference. If the blood circulated in perfectly solid tubes, whose walls admitted of no extension, the impulse of the blood, driven by the ventricle into the arteries, would be communicated even to the end of the column of blood, with the same rapidity with which sound is propagated through this fluid,—much quicker, namely, than in atmospheric air; the pressure of the blood would be transmitted to the finest extremities of the arteries with no perceptible loss of time. But, in consequence of the arteries admitting of some extension, particularly in length, the impulse given to the blood by the heart distends first merely the arteries nearest to the heart. These, by their elasticity, again contract, and thus cause the distention of the next portion of the arterial system, which also, in its turn, by contracting, forces the blood into the next portions, and so on; so that a certain interval of time, although a very short one, elapses before this undulation, resulting from successive compression of the blood, and the dilatation and contraction of the arteries, reaches the most distant branches of the arterial system.‡

\* In the Treatise, *De Pulsu non in omnibus Arteriis plane Synchronico.*

† Annotat. Anatom.

‡ Muller's Elements of Physiology, pp. 200, 201. Translated by William Baly, M.D.

"The same view is also adopted by Carson in his Inquiry into the Motion of the Blood, and is supported with his usual ingenuity.

"Haller remarks, 'Sed etiam in homine, si manum dextram cordis aedi opposueris manum sinistram arteriæ temporali, labiali, radiali, popliteæ adplicueris, manifesto percipies, eodem omnino tempore et cordis recurvatum apicem costas ferire, et sanguinem in omnibus arteriis, quas nominavi, pulsuum efficere. Experimentum sæpe feci, et in me, et in vivis animalibus; fecit Harveius;\* fecerunt primi circuitus sanguinis statores;† fecerunt nuperi Cl. viri;‡ fecit in equo Cl. Bourgelat. §

"This experiment I have repeatedly performed with the greatest possible care, and under circumstances favourable for the attainment of truth, and always with the same result. It is stated that 'the impulse given to the blood by the heart distends first merely the arteries nearest to the heart.' Whether such impulse be directed against a column of blood in arteries possessing elasticity, or altogether destitute of it, one effect must take place, — *the forward movement of the fluid acted upon*. Between arteries and inorganic tubes there is a difference which would simply modify the effect. In the former the blood injected by the ventricle would not remove an equal quantity from the extreme arteries, but only so much as exceeds the distension of the arterial system. In the latter an equal quantity of fluid would necessarily be discharged. The pulse unquestionably depends on this forward rush of the blood, and it follows as an inevitable consequence, that the impulse must be transmitted instantaneously to all parts of the arterial system. To assert that the blood propelled distends only the arteries nearest to the heart, is equivalent to saying, that it does not act on the column in advance. If it does, the impulse of the ventricle will be felt at the same instant throughout the body.

"In opposition to the view which is here advocated, Dr Carson remarks, 'upon the supposition of a synchronous contraction of all parts of the arterial system, the quantity of blood discharged in consequence of that contraction, from the termination of the arteries, must greatly exceed that which would be returned to the ventricles, even if there were no valves to oppose it; the quantity which would be discharged from the former, would be to that returned to the latter, as the square of the diameter of all the capillary arteries of the aortic system, to that of the diameter of the aorta alone.' ||

"The simultaneous contraction of the arteries will not produce the result which is here stated,—in fact, it may be shown to be an impossibility. It is admitted that the arteries are full previously to the injection of every fresh quantity into the aorta, and however greatly opinion may be divided concerning the functions of the arteries, on one point there can be no difference, viz., **THAT THEY WILL BE DILATED, THOUGH NOT TO ANY PERCEPTIBLE DEGREE, BY EVERY ADDITION TO THE MOVING COLUMN.** The arteries are not rigid unyielding tubes, so that

\* Exercit. i. c. 3.

† J. Walæus, Epist. cit. p. 406, Ed. 1.

‡ Josephus Duverney de l'Ouie, p. 206, de Pulsu in Aure Locutus. Thomas Schwenke, l. c. p. 82.

§ Hippiatrique, tome ii. p. 346.

|| The expression should be "the sum of the squares of all the diameters of the capillary arteries of the aortic system."—An Inquiry into the Causes of Respiration, of the Motion of the Blood, &c. By James Carson, M.D., second edition, p. 102.

a dilatation to some extent must take place. Hence the quantity of blood injected by the left ventricle produces two effects,—*the forward rush of the column, and the dilatation of the arterial system*. Nor can the discharge of blood from the extreme arteries, on the supposition of their simultaneous contraction, possibly exceed that which would be returned to the ventricles in the same time.

“During the dilatation and contraction of the arteries, the quantity discharged is precisely equivalent to that which is transmitted in the same time to the cavities of the right side of the heart. There are two periods to be taken into account, the one occupied by the impulse of the left ventricle, and the other by the contraction or subsidence of the arteries. Writers leave out of consideration the second period.

“This view explains satisfactorily the way in which the balance of circulation is maintained between the arteries and veins, without the necessity, which is implied in the doctrine of Weitbrecht, Liscovius, Weber, and Carson, for the successive contractions of the arteries.

We shall take another opportunity of speaking of the new work of our ingenious friend Dr Holland. In the mean time we have quoted the above passages on a point of paramount importance in the doctrine of the moving powers of the circulation. But, notwithstanding our opinion of Dr H.'s talents for investigation in physiology, and the very high authorities which he quotes as holding his view on the synchronous stroke of the arteries all over the body, we must dissent. We regard all argument and array of authorities on this subject as superfluous. We rest our belief on a simple experiment, which is many times within the power of every one. The difficulty of the case lies in the circumstance that, when the pulse is of its ordinary frequency, the interval between the strokes of any two arteries, at different distances from the heart, is too brief, if not to be appreciated, at least to be convincing to one who is sceptical. But when the pulse is slow, not exceeding 60 in a minute, if a finger be placed on the carotid and another on the artery near the inner ankle, the interval between the stroke of the carotid and that of the artery at the ankle is so well marked that all doubt must cease.

From Dr H.'s work we extract another passage on an interesting subject :—

“The fulness of an artery, and the resistance which it offers to the finger, do not, as is generally imagined, depend entirely on the quantity of blood which is transmitted by the left ventricle. There is another important element to be taken into account, viz., *the more or less freedom with which the blood can pass from arteries into capillaries*, which has been altogether overlooked. The quantity and force with which the fluid is sent from the heart will produce, in all arteries of the same calibre, an uniformity of tension ; and were they the only agents influencing the character of the current, an unnatural or aggravated pulsation of a particular artery would not occur. The same causes will give rise to the same general effects. An apparent exception to the rule will always be traced to the operation of some condition which does not ordinarily exist.

“The aggravated pulsation of arteries is most frequently observed in the carotid and temporal, and from very obvious reasons. The brain receives a larger proportion of blood than any other organ of the body. It is in fact one immense mass of capillaries, and from the important and diversified functions which it performs, the greater is the liability of these vessels to temporary changes. They are not only subject, in common with the

capillaries generally, to the influences of constitutional derangements, but especially to all the variety of mental and nervous diseases.

"It is not in the power of the physiologist to state the precise modifications in the condition of the brain, giving rise to an excited action of the carotid or temporal arteries. That there is some impediment to the circulation is evident from the fulness of the arteries which fall under observation. If the blood does not flow in them with its ordinary facility, it is clear that an increased amount will remain to be acted upon by the impulse of the heart, so that the same impulse will produce different effects in arteries, according to the ease with which the blood escapes into the capillaries. Hence the undue pulsation of the carotid or temporal artery is not occasioned by the independent and excited action of the vessel, as is supposed, but by the presence of an increased column of blood against which the force of the heart is directed. It is admitted by Laennec, that 'a sense of fullness attends this augmentation of impulse, the affected artery seeming to be always as full as possible, and more than the other parts of the arterial system.' This is strictly in confirmation of the explanation which is here given. The fulness of the artery proves that the blood passes with difficulty into the capillaries; and, therefore, the ventricular impulse transmitted to the augmented arterial column, will cause a strong and obvious pulsation, as if it were the result of the excited action of the vessel. The same phenomenon is observed in arteries leading to an inflamed part. They become enlarged, and appear to act with increased energy. In all these cases the local pulsation is evidence of obstacles to the circulation, and not of the independent action of the vessel.

"The strong beating of the ventral portion of the aorta may arise from two different causes, either from obstruction in the capillaries of the abdominal viscera, or from pressure upon some part of the aorta. Whichever view is adopted, the explanation is the same. The contents of the aorta have not their usual facility of escape, and consequently the impulse of the heart, meeting with more than ordinary resistance, causes in some part of the column a sense of pulsation.

"The excited action of particular arteries frequently co-exists with great irritability. The individual is anxious and morbidly sensitive; hence it is that the phenomenon is often regarded as nervous in its character, and treated accordingly. The disorder of the nervous system offers no objection to the foregoing arguments. In conjunction with other symptoms, it is evidence of an exhausted or enfeebled condition of the vital powers. The secretions are vitiated and the circulation is weak. The practice which is often successfully pursued in such cases, is change of air and the liberal use of tonics. The influence of both tends to regulate the distribution of the blood, removes partial congestion, and invigorates the action of the heart.

"The arteries in every part of the body enlarge with exercise, but especially in the limbs. The free and repeated play of the muscles is accompanied with a proportionate expenditure of nervous energy and blood. The supply keeps pace with the demand. The nerves make additional claims upon the brain and spinal cord, and the arteries to a corresponding extent upon the sanguiferous system. Both grow with the development of surrounding structures."



## SURGERY.

*Alarming Syncope from the Admission of Air into a Vein during an Amputation at the Shoulder-joint.* By BRANSEY B. COOPER, Surgeon to Guy's Hospital, &c. &c.

"ELIZ. COUSINS, æt. nineteen, single, was admitted into Guy's Hospital on the 17th of May 1843, under my care, for an enlargement in the middle third of the right humerus, the swelling being particularly prominent on the outer and posterior part of the arm."

It was determined to amputate at the shoulder-joint.—"The operation was performed by making a double flap, the subclavian artery being commanded by pressure upon the first rib; it occupied less than a minute; there was no loss of blood, and the patient bore it with great fortitude. The subclavian artery was immediately secured; but compression was still retained upon the first rib, as there were small vessels requiring ligature. I then proceeded to remove a gland from the axilla, which was somewhat enlarged, and while dissecting it from its cellular attachments, I distinctly heard a peculiar gurgling noise, like air escaping with fluid from a narrow-necked bottle, and at the same instant the patient fell into a state of collapse, threatening immediate dissolution: the countenance was deadly pale, the pupils fixed and inobedient to light; the pulse quite small and fluttering, although at intervals regular; the respiration hurried and feeble, and, at irregular intervals, attended with a deep sigh. The patient was directly placed in the horizontal posture, the flap covered over the wound, and retained by plaster. Cold water was dashed over her face, ammonia held to the nostrils, and a sponge filled with wine applied to the lips; but an hour elapsed before she was sufficiently recovered to be removed from the operating theatre.

"Upon being placed in bed, she passed her fæces and urine involuntarily;—some wine and camphor julep, with half a drachm of laudanum, were given to her. During the reaction coming on, she uttered a continual whining cry, and maintained a constant motion of alternate flexion and extension of the right leg, while the left remained perfectly quiescent. She continually complained of pain extending up the right side of the head and neck. Her feet being cold, warm bottles were applied, and twenty drops of liq. opii sedativus given. At four o'clock the wound was dressed, when some small vessels were secured, and a nerve liberated which had been included in one of the ligatures; and to which, perhaps, the pain in the neck and head might be partly attributed. The edges of the wound were brought together and maintained in apposition by silk sutures and adhesive plaster."

About a month afterwards the patient left the hospital with no other unfavourable symptom but a slight dragging of the left leg.

Five months after she was re-admitted "for a tumour on the left scapula, of a similar morbid structure to that in the right arm, for which amputation had been performed. This tumour gradually increased until the period of her dissolution" (at the end of two months), "when it had reached the upper part of the dorsal region of the spine."

"*Post-mortem examination, forty hours after death, January 26, 1844.*—A large fungoid mass was found occupying a great extent of the right cavity of the chest. The tumour growing from the left scapula and

extending to the posterior part of the vertebral column, adhered principally to the second dorsal vertebra, the arch of which was pressed inwards, so as to encroach upon the vertebral canal at that part. The medulla spinalis appeared quite healthy, although it must have been slightly compressed by the vertebral arch at the point above mentioned. The structure of the brain was perfectly healthy, as was that of the viscera generally."—*London Med. Chir. Trans.*, vol. xxvii. p. 41.

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*MR. LISTON on Division of the Stricture in Hernia without opening the Sac.*

In inguinal hernia you proceed so as to expose the abdominal aperture. You make an incision by pinching up the skin, and putting your knife underneath it. This is very advisable, more especially where the hernia has been long strangulated, and there is reason to dread disorganization of the tissues. If you put the knife on the part, you may unexpectedly and at once get into the sac, and wound the tender bowel. You expose the coverings cautiously, whatever they are, turn them aside, and reach the sac; and if you can by possibility divide the stricture without opening the sac, that is to be done. In all cases of recent hernia you are warranted in trying this, and, if you succeed, depend upon it you avoid a great deal of danger to the patient. It is not always so likely to succeed in this kind of rupture as that which presents at the top of the thigh. You know that if, in recent cases of hernia, we succeed in putting it back by the taxis, by gentle pressure on the swelling, the patient is generally freed from unpleasant symptoms in a short time, the vomiting ceases, the pain goes off, the bowels act, and in three or four hours the patient is quite well. The danger is not greater if you succeed without opening the sac than it is after applying the taxis. The patient has only a wound of the integuments of the belly from which to recover, but no inflammation of the peritoneum is to be dreaded. There are none of the bad consequences arising from the operation itself, and often inseparable from it, to be combated.—*Lancet*, February 8, 1845.

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*MR. LISTON on Extirpation of Ovarian Tumours.*

I need not tell you that wounds of the abdomen are dangerous; patients perish from trifling openings where the viscera are not at all involved, and yet you are aware that of late years the belly has been opened intentionally, with the view of ascertaining the existence of tumours, and of taking them out. These incisions have been made sometimes of limited extent, and sometimes from the ensiform cartilage down to the pubes. Some people do not hesitate to make a hole in the abdomen, put in their fingers, and feel what is there, strangely enough exemplifying what Hudibras says—

"As if a man should be dissected,  
To see what part is disaffected."

These operations are, in my opinion, exceedingly unjustifiable; I have always set my face against them, and I think always shall. In the first place, the diseases you meet with here are not always—I may say are very seldom—of a dangerous character. Women labour under encysted tumours connected with the uterus and ovaria, and under solid tumours too, and yet enjoy perfect health; the disease does not kill them. Sometimes—though

very rarely indeed—you meet with malignant diseases here, but it is impossible to ascertain their nature through the parietes of the abdomen. If there be malignant disease, you cannot expect to cure the patient by any known means, and you are not warranted in having recourse to the removal of the disease; for even the operation itself is attended with most imminent risk. You are told how many patients recover where the disease is not of a malignant character; but many people write disingenuously, they do not tell the whole truth. When they have an unsuccessful case they do not bring it forward; but every successful case they advertise most unblushingly. I have taken some trouble in looking after the cases, having by chance seen some of the first that were operated upon, and tried hard besides to dissuade the patients from undergoing it. I have examined previously some of the cases in which Mr Lizars performed this operation in private practice, for I took good care to prevent him from cutting open women's bellies in the hospital after he became attached to it. A new rage has of late sprung up for this proceeding. Mr Key has, within these few months, operated on one case; a Mr Clay of Manchester on several; Mr Bransby Cooper on one; Mr Lane, Mr Walne more than once; besides others. There are some American and foreign cases, besides those of the Edinburgh professor. I have here the particulars of thirty-one cases in which the operation has been performed by what is called the greater incision—that is, from the cartilage ensiformis to the symphysis pubis—with various success. Out of these, sixteen died; in some of them there was no tumour, and in some it was not removed. There is an immense difficulty in the diagnosis; you cannot tell what is the nature of the tumour, and, in some instances, as it appears, the practitioners engaged could not say whether there was any tumour or not. The first case operated on in Edinburgh was that of a woman who had been at one time under my care. She was treated for an abscess of the loins, connected with disease of the spine. There was a considerable excurvation of the spine; she was a puffy, podgy, little woman; she had an exceedingly protuberant belly. She recovered from the effects of the disease for which I treated her; the bones had grown together, but her stature was much diminished; she then complained of a swelling in the abdomen, and got into the hands of Mr Lizars. He proposed to open the belly; she came to consult me, and, in fact, to beg that I would perform the operation. I declined, and endeavoured, by every argument that occurred to me, to persuade her not to submit to it. She did not, however, follow my advice, and, having given her consent, an incision was made by the professor, from the sternum to the pubes; but after turning over the viscera nothing to take away was discovered. Strange to say, the woman recovered almost without a bad symptom. But if you should make certain that there really is a tumour, you cannot possibly tell what its attachments are, and in many of the operations the diseased mass has been exposed, turned over, and found so adherent that it was not possible to remove it. Well, we began with thirty-one patients; out of the fifteen who did not die, six had no tumour, or it was not removed. In some the tumour could not be got at, the patient was sewn up again, and lived in spite of this embowelling process.

With these results I do not think that the operation is justifiable. Besides, in Professor Lizars' most successful case, there was certainly a large tumour removed without a fatal result, but the other ovary was ascertained to be in a diseased condition, and was left, so that the cure was rather incomplete. I think the poor woman was paraded in this city amongst the

physician-accoucheurs and others. It is far better, I apprehend, to let the patient alone; when the tumour attains a great size and contains any fluid, this may be evacuated. I have known of several instances in which the fluid has escaped from time to time by the vagina, with temporary relief. The patient may thus live a great while, and you do not seriously endanger her life. I would not be induced, under any circumstances, to open the belly and explore it, far less to cut it open and attempt to take away the tumour.

Another operation has been proposed, and, in a few cases, performed in encysted dropsy, namely, the making of a hole, pulling the cyst out with the fingers, and putting a ligature round its base. This has been done both successfully and unsuccessfully. Some time back a very fine young woman came to me anxious to have the operation performed. She was in excellent health, but then there was the greatly enlarged belly, which was, from its appearance merely, a great and constant annoyance to her, as calling forth the remarks of her ill-natured neighbours. It was proposed that the operation should be undertaken, but I declined it. She fell into the hands of a practitioner who did perform it, but she died within two days, in dreadful agony. The case was published, and an attempt made to show that I had sanctioned it. This, of course, I was bound to contradict.—*Lancet*, February 8, 1845.

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SIR PHILIP CRAMPTON on *Lumbar Operation for Artificial Anus*.

SIR PHILIP CRAMPTON said, that if he was not irregular in addressing the society from the chair, he would trespass on their time while he made a communication which he thought was of considerable interest; he said this without fearing to incur the charge of egotism, inasmuch as he appeared merely in the character of a reporter, stating what he had seen. It was always a subject of great interest to science to know what passed in other countries, and he sincerely wished that an "Exhibition," similar to the Travelling Fellowships of Oxford and Cambridge, were instituted here. In this way much more accurate information might be obtained than through the press; for though by this means we acquire a useful amount, yet a very essential point is deficient—namely, that degree of confirmation of statements which can only be obtained from an eyewitness. The reading of surgical operations seldom makes much impression; besides we are too often left in doubt as to the ultimate result, on which mainly depends the propriety of performing these operations. While in Paris last summer, he had of course visited the hospitals, and it struck him that it would be an acceptable service if medical men, when they made their excursions for pleasure or health, were to communicate the result of their observations. He did not know whether the operation for artificial anus had ever been performed in this country, except in those cases of new-born infants in whom the rectum was imperforate; he believed, at least, that no opening had ever been made in any part of the course of the colon, from its commencement in the caput coli to its termination in the rectum. In order that the subject might be the better understood by the society, he would give a brief history of this operation, which had been first suggested by M. Littre, in the year 1710, in page 33 of the second volume of the History of the Academy of Sciences of Paris, where it is proposed that in cases

of imperforate anus, in which it is not possible to establish a communication with the rectum, in consequence of its terminating high up in the pelvis, that an incision should be made through the abdominal parietes into the intestine, this wound of the intestine being secured by means of ligatures to the external opening. The suggestion, however, was not acted on till in the year 1767, when M. Pillore, guided by what M. Littre had written on the subject, or more probably being struck with the idea himself, made an opening in the abdomen, forming an artificial anus in the left flank; the patient died of the disease for which the operation had been performed—namely, cancer of the rectum, but lived a sufficiently long time to establish the feasibility of the operation. About the latter end of the 18th century, Callisen, a distinguished surgeon at Copenhagen, proposed to open the colon in the lumbar instead of the iliac region, and thus avoid any lesion of the peritoneum, and consequently all opening of the cavity of the abdomen. He operated by this method on the dead body of an infant born with imperforate anus, but the attempt was unsuccessful, the wound having laid open the cavity of the abdomen. In the year 1793, M. Duret of Brest determined to perform the operation on an imperforate infant; having first tried the operation of Callisen on the dead body of another child, but without success, so far as reaching the cavity of the intestine without opening the cavity of the peritoneum; he then operated by the method of M. Littre, and the patient survived more than forty years. We are thus brought up to the period at which the last operation by the proceeding of Littre was performed in 1794 by M. Dessault, but without success, the child having survived but four days. A commission was then appointed, which gave an accurate account of the statistics of the operation; and it appeared that of twenty-nine cases operated on in France by the method of M. Littre, eight were performed on adults, and the remainder on infants. Fatal peritoneal inflammation succeeded in so many of these cases, that the operation was proscribed by M. Sabatier. This was the history of the operation up to the period of M. Amussat's taking up the subject in 1835, when he proposed to revive the operation of Callisen, with certain modifications; and in 1839 he published his first memoir to the Academy, supporting the proposal by two most important cases. In 1841 he published his second memoir on the same subject, containing two new facts, and since that he published his third memoir in July, 1842, containing four additional operations (making in all six) in favour of the lumbar operation. He made several dissections with the view of performing the operation of Callisen, and found it perfectly possible to cut into the colon in infants without involving the peritoneal cavity: but Dupuytren, Velpeau, Sanson, and others, were all of an opposite opinion. In this discouraging state of the subject, M. Amussat directed his attention more particularly to it; he made experiments on living animals, and on the dead subject; he injected the colon with water, and cut into it in this condition, while it was, as it were, pressed against the loins by means of the injection. Soon after a case presented itself which seemed to call for the operation: it was that of a lady suffering from cancer of the rectum. M. Amussat proposed the operation, and it was performed in the presence of his (Sir Philip's) pupil and relative, Mr Hamilton, from whom he received the details of the operation. The lady died several months after the performance of the operation, not from its effects, but of the cancerous disease. While in Paris he (Sir Philip)

had called on M. Amussat to give him an account of the case of the child of a friend of his now resident in this country, on whom M. Amussat had performed the coccygeal operation for artificial anus with complete success. M. Amussat mentioned that he was about to perform the lumbar operation the following day on a lady, a private patient, and invited him (Sir Philip) to assist at the consultation. The sufferings of this lady were extreme, having been for fourteen days without a motion, this being the result, not of malignant disease, but of stricture, which so frequently forms about the sigmoid flexure of the colon. He might mention here that two cases had lately come under his own observation, in which he had an opportunity of making a post-mortem examination, and in both stricture existed at the termination of the sigmoid flexure of the colon, completely obstructing the canal of the intestine, the stricture being formed by a thickened and contracted state of the submucous tissue. In another case, a gentleman who was attacked with constipation, caused by a malignant tumour, a stricture, which terminated fatally, existed below the sigmoid flexure of the colon: all these, no doubt, would have been fair cases for the lumbar operation. Within the last year he had seen two cases—one, with Doctor Graves, an elderly lady, who had constipation for nearly three weeks, and yet did not suffer the slightest pain until three days before her death—the other he had seen with Dr Tuohill. In these there was no post-mortem examination, but he had no doubt, from the absence of all pain, and other symptoms connected with stricture arising from cancer, that the obstruction in the intestine was not connected with malignant disease. It was of the highest importance to know that such an operation may not only be available in such cases, but if we judge from the number of successful cases on record, that its success is hardly inferior to that of the operation for strangulated hernia. [Here Sir Philip demonstrated with three or four preparations of the colon how easy it would be to cut into the intestine without wounding the peritoneum.] Dupuytren, Velpeau, and several others of the most distinguished surgeons in France, maintain that it is difficult, if not impossible, to cut into the colon in children, in consequence of the narrowness of the fold of peritoneum, forming, as it does, a species of mesocolon attaching the intestine to the loins; yet M. Amussat maintains that it is still easier to perform the operation in children than in adults. As often happens, both parties perhaps concluded justly from having seen the subject from different points of view. On opening the abdominal cavity in infants, the colon, if empty, would be found floating about, as it were, and connected to the loins by mesocolon; but let the intestine be inflated, and what seemed to be mesocolon would, by the separation of the layers of peritoneum forming it, disappear, and the colon would then be seen touching the back of the loins. Again, in infants born with imperforate anus, the colon would be found distended with meconium, rendering the performance of the operation easy. His great wish was the introduction of the operation here, of which, probably, before twelve months, successful cases would be recorded in our hospitals. It was with feelings of regret, not unmingled with some self-reproach, that he looked back on the many cases he had seen in which the performance of the lumbar operation might have been the means of preserving life. In one instance, a poor woman, in indescribable distress, called out for God's sake to do something for her;—to cut her open, or do what we would, only give her some relief. The details of the case and of the operation he was about to give them a short description of, are given so

fully in the *Dublin Journal*, translated from the *Gazette des Hôpitaux*, that he would not trespass on them much longer. The woman was placed on a table in a prone position, with a chaff bolster placed under the abdomen, so as to push its contents from below upwards. Previous to the operation, M. Amussat having marked out with lines of ink the lumbar space circumscribed below by the crista of the os ilium, above by the lower edge of the last false rib, and behind by the anterior line of "the lumbar mass," made exactly in the middle of this space a transverse incision, of about three inches and a half in length, quite through the integuments down to the aponeurosis of the transversalis muscle. Two or three small arteries, which bled freely, were twisted, and when the hæmorrhage had ceased, he carefully divided the aponeurosis; some rounded particles of fat immediately protruded through the opening, these were seized by the dissecting forceps, raised and dissected off, when a shining red surface was exposed, which was at once recognised as a portion of intestine; but the question was of what intestine! And here it was that M. Amussat so signally displayed that coolness, consideration, and judgment, which characterizes the experienced surgeon. He cleaned the wound, by pouring upon it for a considerable time a small stream of water, without in the least disturbing the relations of the surrounding parts. Having examined the parts with deep and silent attention for at least a minute, he pointed out to us towards the outer, or rather the lower part of the wound, a portion of intestine which exhibited the polished surface of the peritoneum, and through which a small yellow substance could be seen moving upwards and downwards with a motion corresponding with the respiratory movements. Contrasting this movement with the fixedness of the portion of intestine that lay upon the external edge of the quadratus lumborum, and consequently nearer to the spinal aspect of the incision, M. Amussat at once concluded that he had laid bare the portion of the colon which is *fixed* to the loins by cellular texture, and consequently receives no covering from the peritoneum; he accordingly passed a *small* curved needle, threaded with a single thread, through the intestine, and sewed it to the integument near the *upper* angle of the incision—then, at the distance of half an inch from the ligature, he passed a tenaculum through the intestine, and having made it tense between these points, he incised it vertically with a pair of sharp-pointed scissors to the extent of about half an inch; the gas escaped with great force, and with a hissing noise, through the opening, and immediately after there followed a considerable quantity of fluid yellow *feces*. Now satisfied that he had effected his object, he enlarged the incision, so as to admit of the easy discharge of the accumulated *feces*, &c. M. Amussat had told them that the only means by which he was able to distinguish between the large and small intestine (as there was nothing in the external character to distinguish the one from the other) was the motion communicated to the small intestine by the action of the diaphragm. Accordingly, on a close inspection, a yellow substance, which was contained within the cavity of the intestine, was seen to move up and down, corresponding with the motions of respiration; thus he was enabled to distinguish the small from the large intestine, which is comparatively fixed by its adhesion to the loins. He then said, "All is right—this is the colon," and enlarged the wound afterwards, passing four ligatures, one at the upper angle of the wound, one at the lower, and one at each side. He then passed in his finger and broke down the hardened *feces*, following this by injecting water up and down through the intestine. The patient was then cleansed

and made perfectly comfortable, and the next day appeared as free from all complaint as any one now present. When the wound was healed the artificial anus was closed by a small pellet of wax with a flattened head, which was secured by means of a suitable bandage. Dr Woodrooffe had since then seen the patient a few weeks ago in Paris, and expressed himself perfectly satisfied with the result of the operation. If Dr Woodrooffe should be in the room, I am sure he will have great pleasure in stating the result of his examination of the patient. It is but justice to M. Amussat to add, that his report of the case in the *Gazette des Hôpitaux* is remarkable, not only for its clearness, but for its fidelity. It had never happened to him in the whole course of his life to have seen so exact a printed report of any occurrence of which he had been an eyewitness, as of this; he might also be permitted to add, that he had never in the course of his long professional life witnessed an operation which was performed in a more satisfactory manner. The whole history of the case, he thought, must be enough to satisfy all present of the propriety of performing the operation in similar cases. M. Amussat had first been induced to turn his attention to the subject upon the melancholy deaths of Broussais and Talma, and never ceased to regret that he had not courage to propose the operation at that time. He (Sir Philip Crampton) had, within the last year, seen two fatal cases of malignant disease of the lower part of the colon; nothing could exceed the sufferings of both previous to the fatal termination, the principal source of suffering being the perpetual but ineffectual straining. On examination cancerous tumours were found in both cases at the sigmoid flexure of the colon. The subject of one, Sir John Power of Kilfane, described his sensation to be as if a knot were tied firmly on the gut. "Now," he said, I would not give a farthing for you if you would not cut down on this knot and untie it." Even in malignant incurable disease, the operation, independently of the immediate relief, might be of the utmost importance as a means of prolonging life for a week or a month, and in such a case no man should hesitate to perform it.—*Proceedings of Surgical Society of Ireland, Dublin Medical Press, 6th February 1845.*

## PATHOLOGY AND PRACTICE OF MEDICINE.

### *Treatment of obstinate Constipation by Tincture of Colchicum.*

DR CHAPMAN of Pennsylvania recommends as a medicine which rarely fails to restore the lost susceptibility of the bowels, tincture of colchicum-root given in doses of ten drops, and repeated several times in the twenty-four hours. It must be persevered in for some time, and it is essential to its success that the dose be small, the object in view being attained by gradual insinuation rather than by forcible impression.—*Brit. and For. Med. Review.*

### *Pulmonary Disease resulting from Irritation of Intestinal Canal.*

DR CHAPMAN of Pennsylvania has recorded the following interesting cases:—

In 1820 I was called, in conjunction with the late Dr Monges, to a boy, who, with most of the symptoms of the preceding case, particularly the copiousness of the purulent expectoration, was so much reduced that the portions of the bones on which he rested had protruded through the integuments in several places.



Discovering that his abdomen was tumid, his tongue furred, his appetite capricious and depraved, and that he was subject occasionally to convulsions, I was led to suspect the existence of worms, and under such an impression anthelmintics were administered.

In less than one week sixty-eight lumbricoides were evacuated, and from that moment he became convalescent, and rapidly got well.

Many years ago, a case occurred in this city which attracted great attention. The son of one of our distinguished citizens, swallowing a pin, was soon seized with gastric irritation, followed by cough and other pulmonary affections. These gradually increased, till purulent expectoration and hectic fever took place, leaving no doubt of confirmed phthisis and a fatal result. But, at this moment of despair, a small abscess arose in the groin, which, on being opened, the pin was found in it and extracted, it having travelled down through the cellular tissue to this point.

Convalescence speedily ensued, ending in a perfect recovery. The subjects of these cases are still living, and in robust health.—*Brit. and For. Med. Review.*

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*Vegetable Acids in Acidity of the Stomach.* By Dr TRACY of Ohio.

My experience with the vegetable acids as correctives of acidity, especially for the last two years, has been considerable. I have prescribed them in a large number of cases, and in nearly all with very decided benefit, some few of which may not be unworthy of a brief recital. During the summer of 1841, I was myself the subject of repeated and severe attacks of catarrhal inflammation of the eyelids, which uniformly yielded to the usual treatment in the course of from three to six days. I observed that they always succeeded to irregularities of diet and regimen, or to anxiety of mind, and were accompanied by acidity of stomach. This I attempted to correct by the early and free use of soda, but in vain; it had but a very slight and temporary effect. As these attacks became more and more frequent, I observed that they were preceded by a sense of fulness and oppression in the præcordia. I had for months abstained from the use of acids, under the impression that they were not suited to my state of health; but, having received no benefit from soda, I was induced to take a glass of lemonade at the first commencement of the attack, and almost instantly I experienced very copious eructations of gas, together with much alleviation of my feelings of distress. The remedy was again and again repeated, and the threatened ophthalmic attack effectually prevented. \* \* \* \* \*

I have found vegetable acids uniformly and entirely successful in removing the disposition to attacks of acidity of stomach in persons who, during the intervals of such attacks, were free from all such symptoms; and my impression is, that in all *such cases* they can be relied upon with more confidence than any other remedy. In cases of acidity arising from pregnancy, I have found the sub-acid fruits of great service, while those that were tart could not be borne, and mineral acids were decidedly injurious, and where alkalis or absorbents were of little or no avail.—*American Journal of Medical Science quoted in Braithwaite's Retrospect.*

The following remarks on a kindred subject are taken from a review of Dr Chapman's *Work on the Diseases of the Thoracic and Abdominal Viscera* in the *British and Foreign Medical Review* :—

Our author's pages supply us with many other examples of rather odd remedies. He has experienced in his own person great relief from sick

headache by the use of lemon juice. Hard cider, taken in the morning fasting, is much employed in America for the same purpose.

Constantly have we reports of the most discrepant sorts of nourishment agreeing with dyspeptics, partly to be referred to individual idiosyncrasies, though much more to the pathological state of the case. The late Professor Wishar informed me that he had for a long time ineffectually endeavoured to relieve an opulent merchant of this city, who was speedily cured by drinking copiously of sour beer, such as had been utterly condemned by the brewers as spoilt and unsaleable.

An eminent lawyer got well of a very inveterate attack, previously attended by the late Professors Rush and Physick, by living exclusively on raw turnips; and the latter was in the habit of relating another case where raw cabbage produced the same effect.

During nearly a whole winter I had under my care, in consultation, a most distressing attack of the disease, proving utterly intractable to the regular remedies, which the next summer promptly disappeared by the person subsisting on the morilla or sour-pie cherry. Nor is this the only instance in which I have heard of cures ascribed to tart and perhaps unripe fruit of various kinds, and one especially, from Professor Hodge, to apples.

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#### *Pathology of Ramollissement of the Brain.*

In the *Archives de Médecine* for December is a valuable paper by M. Rochoux on this subject. The following is a very brief summary of his views:—

The author admits three forms of softening.

A. *Hemorrhagiparous Softening*.—This form usually precedes apoplectic effusions; in nineteen out of twenty cases of laceration of the brain this is the cause. It arises from defective nutrition, by which the texture of the brain loses its consistency, and, its force of adhesion being diminished, gives way under mere arterial impulse.

B. *Infiltration of Blood* also arises from defect of nutrition of the part. It is only in the membranes that real congestion can occur. Redness in the white substance is not a symptom of inflammation, but of infiltration of blood.

C. *Inflammatory Softening* arises from the presence of pus. It may be detected without the microscope by directing a small stream of water on the cerebral substance, which, in such a case, breaks it down and washes it away.

M. Rochoux concludes his memoir by stating, that although he has now been studying this disease during thirteen years as physician to Bicêtre, he has been unable to establish any satisfactory foundation for its diagnosis. He is not aware of any single well authenticated undeniable case of its cure.

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#### *Case of Rupture of the Heart.*

MR BODINGTON relates in the *Provincial Journal* an interesting case of rupture of the heart.

The patient, a man aged seventy, after slight illness for a week, was seized with a violent pain in his side. The pulse was very slow, and

scarcely perceptible at the wrist ; the skin was covered with a cold clammy perspiration ; and the countenance was expressive of intense anxiety. He died in about nine hours afterwards. The pericardium was found distended to the utmost with fluid and coagulated blood. The heart was of the usual size, but covered with an immense quantity of fat, and much softened in its texture ; in fact, it seemed to have undergone the fatty degeneration. On the left ventricle, near to the septum, two lacerations communicating with each other were observed ; they, however, united in one, and opened by a single aperture into the ventricle. The aperture admitted an ordinary-sized blow-pipe. The walls of this ventricle were of the usual thickness, but thinned somewhat at the seat of the rupture. The right ventricle appeared healthy ; but its walls were somewhat attenuated. No trace of disease of the valves nor of the arteries could be discovered.

#### MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

*Resumé of Dr Boudet's Paper on Gangrene of the Lungs in Children, published in the Journal für Kinderkrankheiten, tom. ii. 1844.*

GANGRENE of the lungs, as well as other gangrenous affections, are met with more frequently in children than in adults. When this disease attacks the lungs, it is seldom confined to these organs only ; it is most commonly found in the posterior and inferior portions of the lungs, and shows a great tendency to spread from them to the neighbouring tissues ; it thus not unfrequently destroys the pleura, passes into the mediastinum, and perforates the œsophagus. The gangrene may be found either in patches, in lobules, or diffused ; it can be cured as well in children as in adults. When a cure takes place, the gangrenous part is surrounded by an organized lymph secretion, which completely separates it from the neighbouring tissues.

Local affections, such as pneumonia, tubercle, &c., appear to have no influence in originating this disease, but it seems to arise under the presence of certain constitutional causes ; thus, a weakened and cachectic habit of body, with an unhealthy mode of living, may be regarded as the predisposing causes.

The proximate cause is an alteration of the blood, produced by scurvy, measles, or scarlatina ; this change in the circulating fluid is indicated, during life, by hemorrhages, spots of purpura, with spunginess of the gums ; and after death, by ecchymoses, sugillations, and the perfect fluidity of the blood. The altered state of the blood consists in a diminution of its fibrine and an increase of its alkalidity.

The curative indications are,—*first*, To strengthen the weakened constitution of the child by proper regimen ; *secondly*, To neutralize the chemical change in the blood by the internal and external exhibition of acids, antiseptics, and tonics ; and, *thirdly*, If gangrenous spots show themselves on any part of the body that can be reached, with the foregoing means is to be conjoined the local application of the caustic and concentrated acids, with acid washes, gargles, and injections.

#### *Dr Hennis Greene on Pulmonary Phthisis in the Young Subject.*

“The main character which distinguishes the phthisis of children from that of adults is this ; in children the tubercular deposit occupies a much

larger surface of the lung, is more rapidly secreted, and is complicated with tubercular disease of other organs more frequently than in the adult. Hence, children often sink under phthisis before the complaint has arrived at its third stage. The modifications produced by the extensive diffusion of tubercular matter often render the diagnosis of the disease obscure and difficult. In addition to this character, we have the peculiarities occasionally induced by excessive tuberculization of the bronchial glands, giving rise to bronchial phthisis, a form of disease altogether confined to the child." Dr G. gives three varieties under which tubercular deposit is found in the lungs of children,—1st, *Miliary tubercles*, which present no peculiarity worthy of notice; they are more abundant in the upper lobes, and this variety is the most frequent. 2d, *Yellow infiltration*, chiefly found in children under three years of age, generally confined to one side of the chest, and occupying a considerable portion of the lobe or lobes affected. 3d, *Crude tubercle*, most frequent in the superior lobes, as in adults. The left side is more frequently the seat of disease than the right. Tubercle is not more frequent in the bronchial glands than in the lungs, though the contrary has been asserted by many writers.

*Cavities* are most commonly found on one side only, seldom on both. In children under five years of age, the cavernous excavation is generally seated in the lower or middle lobes.

"In children two varieties of cavern are met with; the one resembling that which occurs in adults, the other peculiar to the young subject. The latter variety is produced by the process of softening taking place in the midst of yellow infiltration, and is chiefly confined to children under three years. The whole of a lobe, or a considerable portion of the lung, is converted into a mass of infiltrated tubercular matter, in the centre of which we find a large anfractuons cavity, lined with softened tubercle. In some other cases, we have a number of small irregular cavities, disseminated through the mass of infiltration, or numerous caverns not larger than peas or nuts, separated by intervals of healthy lung, but communicating with each other."

Dr Greene endeavours to show that there is a difference between the symptoms of pulmonary phthisis in the child and in the adult; but with one single exception, viz. the absence of expectoration, we cannot perceive the distinction. The physical signs are few and uncertain, and in children under five years of age they are frequently wanting. It is presumed that the absence of the signs of cavities depends on their anfractuons form, or on the small calibre of the bronchial tubes. *The cough* is occasionally absent, or so trifling as not to attract attention. *The respiration* is not accelerated until the disease is somewhat advanced. *Hæmoptysis* has been rarely observed, not probably because hemorrhage from the lungs does not take place, but for the same reason that expectoration is not one of the symptoms, i. e. because children swallow all that is brought up by coughing. Dr Greene relates the following good illustration of this:—"A child, æt. two, died suddenly from the rupture of a blood-vessel which traversed a cavern in the right lung. A very small quantity of blood had been discharged from the mouth, for the child had swallowed the greater part of it; and after death the stomach and duodenum were found full of enormous clots of blood, which were literally moulded on their surfaces." All the children in whom spitting of blood was observed were above nine years of age. The effusion of blood may arise from pulmonary apoplexy, rupture of a vessel traversing a cavity, or from perforation of one of the large blood-vessels of the chest by an enlarged bronchial gland.

Dr G. states that the symptoms constituting hectic fever are seldom present in any marked degree until near the age of puberty; the symptoms analogous to hectic fever frequently appear long before the stage of softening.

*Bronchial Phthisis.*—This term is confined by Dr Greene to those cases only where the bronchial glands are so enlarged as to produce inconvenience, either mechanically, or by communicating with caverns in the lungs. All the large vessels in the chest have been found compressed, or perforated by these enlarged tuberculated glands, and so also have the trachea, bronchial tubes, lungs, and œsophagus. Pressure on the eighth pair of nerves by the same bodies has produced modifications in the tone of the voice and paroxysmal cough, resembling pertussis. When the tuberculated glands acquire a considerable degree of development, the following is the train of symptoms produced:—"The eyelids become œdematous, and, in proportion to the degree of pressure on the vena cava, the œdema extends to the whole of the face, which is sometimes pale, sometimes tinged with venous injection. This œdema will appear and disappear several times during the course of the disease. The cough suddenly changes its character, and occurs in fits like those of whooping-cough; the voice gets hoarse, and for days together may be altogether lost; fits of asthma or of suffocation, as if the heart were diseased, occur. On examining the chest, we hear a loud sonorous ronchus, which persists for a length of time, and then disappears, or is replaced by other râles of an anomalous character. When these symptoms are super-added to the rational signs of phthisis, we can have little hesitation in deciding that they arise from tubercular enlargement of the bronchial glands.—*Medico-Chirurg. Transactions, London*, vol. xxvii. p. 351.

## FORENSIC MEDICINE AND MEDICAL POLICE.

### MR TAYLOR on the Tests for Opium.

THE following table, showing the objections which may be urged against the tests for meconic acid and morphia, has been constructed from a very excellent paper by Mr Taylor in Guy's Hospital Reports:—

A. Solution of Sesquichloride of Iron gives with Meconic Acid . . . . .				a Red Colour
Do.	do.	.. ..	Sulpho-cyan. Potass	do. do. }
Do.	do.	.. ..	Saliva	do. do. }
Do.	do.	.. ..	Decoction of Mustard Seed	do. do. }
guished from the preceding by the red colour being discharged by a small quantity of Sol. Bichlor. Hydrarg.				
B. Nitric Acid gives with Sol. Morphia . . . . .				a Yellow Colour
Do.	do.	.. ..	Decoct. of Mustard	do. do. }
Do.	do.	.. ..	Decoct. of Nux Vomica	do. do. }
being immediately formed—by yellow colour being discharged by chloride of tin—and by yellow colour being turned dirty green by Sesquichloride of Iron.				
C. Iodic Acid is decomposed by Morphia.				
Do.	do.	.. ..	Saliva	
Do.	do.	.. ..	Decoct. of Mustard	

It is thus seen that a decoction of mustard seed undergoes, with all the reagents, changes almost exactly similar to those which take place between them and the more important constituent parts of opium; objections might therefore be urged against the chemical evidence of the presence of opium, which, although unimportant to a chemist or medical jurist, might, by the ingenuity of counsel, have a wondrous effect with ignorant jurymen in a court of law.

With regard to the solubility of opium in water, Mr Taylor found that when six drachms of boiling water were poured on fifteen grains of finely powdered opium, and allowed to stand for twenty hours, the water took up four per cent. of its weight.

Mr Taylor also performed some experiments in order to ascertain the comparative delicacy of the tests for morphia and meconic acid ; he found that

Nitric Acid	detected $\frac{1}{10}$ gr. of Mur. Morph. = 1.2 gra. opium diluted in 300 times its weight of water.
Sesquichlor. Iron	:: $\frac{1}{100}$ :: :: = 1.6 :: :: 231
Iodic Acid	:: $\frac{1}{100}$ :: :: = 0.18 :: :: 1300 :: ::

The reagents used indicated the presence of the morphia when the solution was even more diluted than is mentioned in the preceding table, but at these dilutions they acted satisfactorily. It ought to be stated that it was not a watery solution of opium that was used as the assay, but a solution of two grains of crystallized muriate of morphia, dissolved in one ounce of water ; a similar solution of meconic acid being used for the same purpose. The solution of the sesquichloride of iron was found to act satisfactorily on the 570th part of a grain of meconic acid (=0.28 grs. of opium) dissolved in 14820 times its weight of water.

Twenty-five grains of a cold saturated solution of meconic acid left, on careful evaporation in a sand-bath, 0.2 gr. ; the water therefore took up 0.8 per cent., or one part in 125. This solution gave a strong acid reaction. Meconic acid is much more soluble in boiling water, but is again precipitated in great part on cooling.

It has often been a question respecting the smallest quantity of meconic acid which should be present in a liquid, in order to admit of its separation by acetate of lead, and subsequent identification by the sesquichloride of iron. Mr Taylor found, that when an ounce of water contained less than 1.48th gr. of acid, no perceptible precipitate of meconate of lead was formed. " Admitting that opium, on an average, contains six per cent. of meconic acid, according to the late analysis of Smyrna opium by Mulder, this is equivalent to one grain of the acid in 16.6 grs. of opium ; and the 48th part of a grain of meconic acid would be therefore represented by 0.34 gr. of common opium ;" unless therefore the soluble matter of several grains of opium exist in the organic mixture given for analysis, it will be difficult to obtain meconic acid and morphia separately.

Having, then, determined the quantity of meconic acid necessary to form a perceptible precipitate of meconate of lead, the next question Mr T. discusses is, what quantity of meconate of lead is required to yield sufficient meconic acid for the determination of its presence by the iron test ! " One-half grain of meconate of lead, equivalent to about one-fourth of a grain of meconic acid, was digested with a few drops of diluted sulphuric acid ; and the sulphate of lead being allowed to subside, one or two drops of the sesquichloride of iron were added to the supernatant liquid, when the red colour indicative of meconate of iron was immediately produced. From the intensity of colour acquired by the solution, there was no doubt that even so small a quantity as an eighth of a grain of meconate of lead, equivalent to about 1.16th gr. of meconic acid, would, when properly treated, allow of the separation and detection of that body."

" It sometimes happens, in decomposing impure meconate of lead by boiling it with diluted sulphuric acid, that the liquid acquires a deep red tint, which might interfere with the action of the iron test. I found, on evaporating this liquid, which is a mixture of sulphuric acid, meconic acid, and colouring matter, that the latter becomes carbonized ; and that from the evaporated residue a clear aqueous solution was obtained, which readily admitted of the use of the iron test, without any risk of fallacy." The impure meconate of lead obtained by the precipitation of an opiate infusion,

may be rubbed up with hydrosulphuret of ammonia, diluted with water and filtered. The liquid is then to be boiled until acetate of lead no longer give a brown precipitate with it, and meconic acid may then easily be detected in it, under the form of meconate of ammonia. The paper from which we have so fully extracted does Mr Taylor the highest credit, many of the points in it having never before been examined by toxicologists.

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## PART IV.—MEDICAL MEMORANDA.

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*Account of a Communication read to the Medico-Chirurgical Society of Edinburgh by PROFESSOR CHRISTISON, on Certain Cases of Functional Disorder of the Heart, apt to be confounded with Hypertrophy.*

Wednesday, 8th January 1845.

(From the Minutes of the Society.)

THE author, advertng to the general liability of severe functional disturbance of the action of the heart to be mistaken for hypertrophy of that organ, described a set of cases in which this error is peculiarly apt to occur in consequence not merely of the uncommon severity of the symptoms referable to the heart, but likewise of the prominence of the leading symptom, heaving pulsation in the cardiac region.

These cases resemble one another in the following particulars. The apex of the heart pulsated with peculiar distinctness close to the sternum under the cartilages of the ribs, and in all but one between the fourth and fifth ribs. The pulsation, as examined by the hand, stethoscope, or even the eye from some distance, was so forcible as to elevate a considerable portion of the chest over the heart, exactly as in hypertrophy. This pulsation was not materially reduced in force when the patient's complaints were removed. The extent of dulness of sound on percussion over the heart was somewhat more circumscribed than in the ordinary state. There was no sign of any valvular disease or organic derangement in the great vessels. The patients complained of violent palpitation increased by any unusual exertion, by mental emotions, by meals, or by hard study, relieved by gentle regular exercise and a restricted diet, and increasing so much at night as to prevent sleep for many hours, and sometimes altogether.

The customary accessory symptoms also occurred with uncommon severity, and generally there was a strong conviction of the existence of organic disease, and a dread of sudden death.

The author was disposed to ascribe the peculiar severity of these cases to the heart being either less in size than natural, or lying unusually close to the parietes of the chest. Preternaturally strong impulse being thus occasioned at all times, but especially under unusual exertion or mental emotion, it only seemed to require an irritable nervous temperament and an incidental attraction of the patients' attention to the state of the heart, in order to produce all the sufferings which they complained of.

In every instance of the kind which had come under his notice, a cure had been completed by a due regulation of the diet and regimen, and by inducing the patient to withdraw his attention from the action of the heart. He insisted upon this last measure as indispensable; and showed by the detail of the cases that nothing else was required to effect a cure in the

worst forms of the affection except low diet, regular and frequent gentle exercise in the open air, and occasionally counter-stimulants applied over the region of the heart.

In several instances he had occasion to know that the cure continued permanent after several years, in one instance after nine years; although in all of them the heaving impulse in the cardiac region was but little diminished in force.\*

(From the Minutes of the same Evening.)

*Popliteal Aneurism cured by Pressure.* By JAMES ALLAN, M.D., of the Royal Hospital, Haslar. (Communicated by Dr Pagan.)

THE patient in this case was a stout healthy seaman, aged 32. The tumour was in the right ham, had been first noticed six weeks previously, and had increased rapidly. On the 27th of July 1844, the treatment by pressure was commenced. A broad strap of soap plaster was put round the thigh, the limb bandaged from the toes to the groin, and gentle pressure made on the femoral artery, below the branching off of the profunda. The pressure was well borne, and was increased very gradually. On the third day, gentle pressure was made by a tourniquet over the tumour, the circulation was kept low by antimonials, and the pressure steadily increased till the 26th August, when he could bear pressure so great as entirely to suppress the circulation in the limb. The moderate pressure was continued till the 21st September, when a large artery was found pulsating strongly, about two inches under and inside the patella. Pressure so complete as to obstruct all circulation in the artery was maintained for twenty-four hours. The tumour then disappeared, with the exception of slight thickening of the part, and that also was totally away on the 22d October, when he was discharged cured. The patient was at his duty on the 22d November.

#### *Meningitis—Homœopathy.*

WE extract the following from the Medico-Chirurgical Review for October, p. 520 :—A case of this kind was related by Mr Adams lately before the Dublin Pathological Society. A young lady, aged twenty-three years, complained on Christmas-day of sickness and chilliness. Two days afterwards she complained of double vision. On the 28th she was visited by an eminent professor of homœopathy, who undertook the case as one of fever, which was going on well. Next day she had a convulsion, followed by delirium, &c. We need not notice the symptoms or the treatment. The former were unequivocal of dangerous inflammation in the brain—the latter worse than no treatment at all. The patient craved for fruit, whey, chicken-broth, &c., but these were not allowed, and the bowels were never opened till the day before she died. On dissection, the membranes were highly congested, and the pia mater quite red. Much bloody serum was found in the ventricles and in the spinal canal. The base of the brain was like scarlet cloth!

It has been said that the only charge against homœopathy is the loss of precious time in acute diseases; but we are justified in charging homœopathy with gross ignorance of pathology, or the nature of disease. What man, capable of interpreting the symptoms of a malady, could think of treating meningitis by teaspoonfuls of water, without any efficient medicine of any description! The truth is, that the homœopaths are generally

\* Dr Christison's paper is published in the February number of the London and Edinburgh Journal of Medical Science.



incapable of recognising acute diseases ; and they therefore treat them all as chronic, or rather as imaginary affections—that is, with low diet, and no medicine !

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*Protestation of the University of St Andrews against the Aspersions of the Edinburgh Review.*

IN a recent article in the *Edinburgh Review* on the proposed Medical Reform Bill, some passages occur of which the University of St Andrews feels itself entitled to complain with some reason. One of these is, that “rejected or despairing candidates of Edinburgh, or of other schools, find a ready outlet at St Andrews;” another, that “a traffic in degrees continues to be carried on in the University of St Andrews.” It is too true that the University of St Andrews, as well as that of Aberdeen, once, and that not very long ago, carried on a traffic in degrees not very creditable to either. It was Samuel Johnson, on his visit to Aberdeen, who remarked on this practice, that the university “would get rich by degrees;” and there was a long standing joke on the University of St Andrews, that though it refused degrees to horses, it granted them to asses. But this state of things has ceased in both universities for ten or twelve years past. Both universities had the virtue to stop short in a career which brought them profit. The University of St Andrews, then, has good ground to exclaim against the injustice of being met with reproach, when it deserved commendation—the high commendation which belongs to repentance and amendment.

We have not room to insert the resolutions on this subject circulated by the university ; but we can bear witness to their being temperately drawn up, and expressing the truth without exaggeration or colouring.

The University of St Andrews has in reality reformed itself on this point ; and we know that the examination to which candidates for the degree of doctor are subjected is such as would do discredit to no medical examining board.

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*Extension of the Saughtonhall Establishment for the Insane.*

A SHORT time ago we were invited, along with a number of our medical brethren, to visit the new house in connexion with the Saughtonhall establishment for the insane. By the politeness of the resident physician, Dr Lowe, the whole arrangements of the house were exhibited to the visitors. The accommodations it affords are of the most perfect kind those present had ever witnessed. The finishing of the apartments, and the style of the furniture, offer a rare model of propriety and good taste. And what pleased us particularly was the number of ingenious devices for the security of the inmates, so managed as to present nothing in any respect different from what might adorn a family residence. The adjacent grounds are extensive, and laid out with a corresponding elegance. Large as the house is, it is fitted up to afford complete comfort to but a small number of patients.

We were informed that it is more particularly designed for convalescents, and we conceive that some similar plan (viz. that of having a separate building for those recovering from mental disease) should form a primary object in the construction of every asylum.

THE  
NORTHERN  
JOURNAL OF MEDICINE.

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No. XII.—APRIL 1845.

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PART I.—ORIGINAL ARTICLES.

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*Memoir on the Statistics of the Lock Hospital of Edinburgh, from the Year 1835 to 1844.* By DAVID SKAE, M.D., F.R.C.S., Senior Acting Surgeon, and JOHN BENBOW, Esq., House-Surgeon to the Hospital.

THE present memoir comprehends a survey of the statistics of the Edinburgh Lock Hospital, from its re-establishment on 1st May 1835 up to 1st May 1844, a period of *nine years*. During the early part of that period, the cases occurring at the hospital were reported in a daily journal; and during the last seven years they were recorded in a tabular form, presenting the most important features in the history of the patients, in that arrangement which it was conceived would be most convenient for the subsequent formation of statistical tables. The tabular form in which the cases were taken, while it was calculated to afford many facilities for the elucidation of statistical inquiries, increased at the same time the facilities with which errors might be made when the cases were hastily or carelessly entered. Great difficulty has accordingly been experienced in framing the following tables. In many instances it has been found necessary to make allowances for inaccuracies in the mode of entry; and the history of such cases has been completed and rendered consistent, partly by reference to those sources of error into which the reporter was most liable to fall, but chiefly by a careful examination of the statements regarding the treatment and progress of the case. And although much time and labour have been necessarily expended in the construction of these tables, it is believed that they contain results which afford a very near approximation to accuracy.

The number of patients admitted into the hospital during the period included in our report amounts to 2429. The admissions for each successive year were as follows:—

1835-36,	207	1841-42,	320
1836-37,	244	1842-43,	293
1837-38,	275	1843-44,	236
1338-39,	253		
1839-40,	310	Total,	2429
1840-41,	291		

At the outset of our remarks, it may be interesting to inquire whether the number of admissions into the hospital were more frequent at one period of the year than another. The following table will illustrate this point :—

	May.	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	*
1835-36,.....	9	14	12	18	17	18	13	13	34	14	16	20	9
1836-37,.....	20	16	15	28	20	13	13	16	27	26	19	23	8
1837-38,.....	16	20	24	20	22	24	24	28	19	22	21	22	13
1838-39,.....	23	19	19	25	21	17	22	18	18	18	21	18	14
1839-40,.....	16	23	24	33	27	23	34	21	32	23	26	22	6
1840-41,.....	15	27	21	17	25	23	28	23	36	22	25	17	12
1841-42,.....	15	28	29	30	30	23	31	28	27	25	25	22	7
1842-43,.....	18	22	24	21	31	29	25	19	23	23	24	26	8
1843-44,.....	18	20	14	21	14	21	15	15	24	21	15	26	12
Total Number in each Month }	150	189	182	213	207	191	205	181	240	194	192	196	89
Average Number each Month }	16½	21	20½	23½	23	21½	22½	20½	26½	21½	21½	21½	

From the foregoing table it appears that the admissions into the hospital have been most frequent in the month of January; and next to that, in the months of August, September, October, and November. The number of cases occurring in the early part of the year is probably to be attributed to the festivities prevalent about that period; and the numbers in autumn to destitution, want of employment, and other causes referable to the absence of strangers from town, which induce the lower class of prostitutes to seek a temporary asylum and cure in the hospital.

The next point of interest presented to our consideration is the *age* of the patients. The following table exhibits the number of each age :—

Age.	Number.	Age.	Number.	Age.	Number.
Infants	9	13 years	3	18 years	406
9 years	4	14 —	17	19 —	404
10 —	1	15 —	57	20 —	271
11 —	3	16 —	178	21 —	161
12 —	1	17 —	324	22 —	127

\* The last column refers to patients affected with warts and abscesses, excluded in the calculations of this table.

Age.	Number.	Age.	Number.	Age.	Number.
23 years	111	32 years	13	44 years	3
24 —	76	34 —	12	53 —	1
25 —	58	36 —	11	55 —	2
26 —	69	38 —	3	58 —	1
28 —	56	40 —	9		
30 —	37	42 —	1		2429

It is consistent with our observation that few females engaged in prostitution escape from some form of venereal disease beyond a few months, and that they more certainly apply for hospital aid during a first than during a subsequent infection (unless of the severer forms of the disease); and we conceive, therefore, that the foregoing table furnishes a fair estimate of the average age of prostitutes. It will be seen that the patients from 17 to 20 years of age include considerably more than one half of the whole number admitted during the nine years, and that the average age of prostitution is probably about 18.

Of the infants included in this table, six were from 6 to 12 months old, one 15 months, one 2 years, and the remaining one 3½ years. Of these cases some were affected with gonorrhœa preputialis; the majority with cutaneous eruptions, in the youngest patients apparently congenital, and in the others of a condylomatous character, with ulceration of the lips, &c., contracted, as was believed, by contact with the mother or nurse, and similarly affected.

As affording evidence of the extreme destitution and poverty prevalent in the city, very exaggerated reports have of late been publicly made of the number of patients admitted into the hospital affected with venereal diseases at a very early age (under 12 years). These reports are in some measure sanctioned by evidence taken before the Poor-law Commissioners, and even by the work of Mr Tait on Prostitution in Edinburgh,\* who appears to have made some inaccuracy in his calculations in stating that, during a period of five years, of 1000 patients admitted into the hospital, 42 were *under* the age of 15. It will be seen by a reference to the foregoing table, that, including the infants just noticed, the total number of patients *under 15 years*, out of 2429, was only 38. Of these *no less than 17* were fourteen, and 3 thirteen years of age; so that, during a period of nine years, only 9 patients have been admitted between the ages of nine and twelve. Of these nine cases, we are convinced that not more than one or two could be attributed to voluntary intercourse (from poverty or any other cause), and that the others were the victims of assault. We are far from denying that voluntary prostitution does occur even at that early age; but such cases seldom come within the walls of an hospital, they are

the victims not of poverty, but of that ready avidity with which unprotected youth is assailed to pander to the lust of depraved appetite.

Of the patients above 30 years of age (only 56 in number), a majority were married, and nearly all of them laboured under the secondary symptoms of venereal disease. Eight patients were above the age of 40, and only four of these above 50. We have been repeatedly struck by the appearance of extreme old age presented in patients labouring under secondary syphilis, even in females under thirty years of age. In some cases this has been so striking that we would have altogether discredited the statements of the patients themselves had there not been other sources to prove their correctness.

It is perhaps worthy of remark, in reference to this table, that it affords evidence of the great mortality of prostitutes. It would appear from other records of the institution that a very small proportion of the inmates return to a virtuous course of life, and as age or previous infection does not make them less susceptible of the disease, it must be inferred that a great majority die at a very early age.

The diseases under which the inmates of the hospital laboured, may be conveniently referred to the four following heads, viz., gonorrhœa, condyloma, primary and secondary syphilis: a few cases will remain in each year, in which the patients were affected with warts or abscesses *alone*, and which cannot be comprised under any of these heads. The following table will show the relative frequency of each of the above forms of venereal disease, and also the number admitted each month during the whole nine years:—

	Gonorrhœa.	Condyloma.	Primary Syphilis.	Secondary Syphilis.	Total.
May,	38	24	61	27	160
June,	38	26	89	36	189
July,	41	32	80	29	182
August,	56	34	93	30	213
September,	48	29	100	30	207
October,	45	27	91	28	191
November,	43	36	92	34	205
December,	40	46	72	23	181
January,	52	43	113	32	240
February,	37	30	92	35	194
March,	41	35	82	34	192
April,	41	38	90	27	196
	—	—	—	—	—
	320	400	1055	365 =	2340
			Warts and abscesses,		89
					—
					2429

It thus appears that nearly one-half of the whole number of

patients admitted into the hospital were affected with primary syphilis—the relative proportions per cent. were nearly as follows :—

Gonorrhœa,	22½
Condyloma,	16½
Primary syphilis,	43½
Secondary syphilis,	15
Abscesses and warts,	3½

The great frequency of primary syphilis in the hospital compared with the other forms of venereal disease, must be attributed to the severity of the symptoms and the rapidity of its progress. It cannot be doubted that many females labouring under gonorrhœa undertake their own cure, and that a still larger proportion, from the mildness of the symptoms, disregard the affection altogether, and leave it to pass into a chronic state not distinguishable from if not identical with leucorrhœa.

Lastly, this table shows that the cases of secondary syphilis are to those of the primary affection nearly as one to three. This we shall have occasion to refer to again under the head of syphilis.

#### GONORRHOEA.

Of the 520 cases of gonorrhœa, the duration of disease before admission was as follows :—

	Cases.		Cases.		Cases.
3 days in	29	2½ months in	1	1 year in	5
1 week	100	3 —	31	1½ —	1
2 —	99	3½ —	1	2 —	3
3 —	61	4 —	9	3 —	1
4 —	53	5 —	5	5 —	1
5 —	5	6 —	9	Omitted	51
6 —	23	8 —	1		
2 months	30	9 —	1		520

From this table it appears that a great majority of patients affected with this disease do not apply for admission in the first stage of the affection, a satisfactory proof that the inflammatory symptoms are comparatively mild, and not attended with that pain and suffering which the disease produces in the other sex. Although this is true generally, we have seen cases in which the whole mucous membrane of the vagina and uterus was acutely inflamed, and in which considerable pain was complained of.

From the circumstance, apparent in the table, that only 129 were received into the hospital within a week of their seizure, and that a large proportion of the remainder had been ill for many weeks and even months, an obvious inference may be made as to the extent to which gonorrhœa must be propagated

while their exists no system of medical police providing for the detection of such diseases. Of the cases recorded in this table of very long duration, it may be remarked that some of them were females from the country, who from ignorance, shame, or other causes, had delayed seeking medical aid; and others were undoubtedly cases of leucorrhœa in which perhaps the discharge had been temporarily increased by some cause.

Of these 520 cases, 162 were complicated with bubo. As it may be presumed that in many of those instances the patients would not have come to the hospital unless it had been for this complication, we have here additional evidence of the frequency with which patients undertake their own cure, or leave the disease to run its course.

The duration of cure of simple gonorrhœa was—

	Cases.		Cases.		Cases.
3 days in	20	6 weeks	12	20 weeks	1
1 week	65	7 —	4	Discharged, ab-	
10 days	48	8 —	6	sconded, &c.	24
2 weeks	75	10 —	2	Omitted,	5
3 —	42	12 —	6		
4 —	33	14 —	1		358
5 —	13	16 —	1		

The average duration of treatment in the whole number of cases was about 19 days. The table, however, includes a certain number of cases varying in duration from 5 to 20 weeks. Most of these were cases of leucorrhœa, or at least of chronic discharges from the uterus which were not distinguishable from it, and not more amenable to treatment. If, for this class of cases, the 17 which were in the hospital above 8 weeks are deducted, it will reduce the average duration of treatment to  $15\frac{1}{2}$  days. Lastly, it will be seen that two-thirds of the whole number of cases were cured within 14 days.

Of the cases complicated with bubo the duration was as follows:—

	Cases.		Cases.		Cases.
1 week in	10	7 weeks in	14	24 weeks in	1
10 days	2	8 —	9	Discharged, ab-	
2 weeks	17	10 —	9	sconded, &c.	11
3 —	17	12 —	6	Omitted,	2
4 —	26	14 —	3		
5 —	21	16 —	1		162
6 —	12	20 —	1		

The average duration of the treatment with bubo, it will be thus seen, is 38 days. The same remarks made in reference

to the protracted cases of simple gonorrhœa are also applicable to the protracted cases in this table; some being complicated with chronic discharges, others with warts, and several of the patients were pregnant and aborted in the hospital.

The treatment of gonorrhœa was almost entirely local, consisting, in the few cases which presented inflammatory symptoms, of scarifications and warm water injections, and in the others in the use of stimulating injections, consisting of solutions of sulphate of zinc, sulphate of copper, alum, acetate of lead, and decoction of oak bark. In chronic cases, mostly of long standing, advantage was occasionally obtained from the introduction of bougies coated with citrine ointment; more marked benefit, however, in similar cases, was derived from plugging the vagina with tampons of lint saturated with some astringent lotion; in others, again, the introduction of the nitrate of silver, in substance, into the vagina or uterus, was followed by immediate and decided amendment,—so much so indeed, that in two cases, one of them of two years' duration, a complete cure was effected by a single introduction of the caustic. In each of these cases the discharge proceeded both from the uterus and vagina.

With regard to the efficacy of internal remedies, we have tried numerous experiments with cubeba and copaiba, and are satisfied that neither of them have any effect upon gonorrhœa in the female. Even in one case where the discharge proceeded from the urethra, the copaiba, contrary to the opinion of M. Ricord, did not appear to have any effect.

In chronic discharges from the uterus and vagina, apparently of a leucorrhœal character, we administered pills of sulphate of zinc in a great number of cases, in others we tried the ergot of rye, and in others the tincture of cantharides. From the two former we observed no marked advantage; the latter, however, we found very useful in a majority of instances. In obstinate cases, a cure was sometimes effected after the application of blisters to the sacrum; and, lastly, where the uterus presented much congestion, we found great use from scarifications of the cervix.

From our observations we are convinced that the features described in works on forensic medicine as affording a means of diagnosis between gonorrhœa and leucorrhœa, are extremely fallacious. Gonorrhœa, it is said, affects the lower part of the vagina only, while leucorrhœa proceeds from a higher source.\* This may be true in certain recent cases of gonorrhœa, the result of violence; but it is by no means true in the great majority of cases. In many instances which we have seen of the disease in its acute stage, the mucous membrane

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\* See Beck's Medical Jurisprudence, &c. &c., Art. Rape.



of the vagina was inflamed throughout its whole extent, and also that of the cervix uteri; while a discharge exactly similar to that secreted in the vagina was also seen issuing from the os uteri. And in chronic cases, on the other hand, so far from this statement being accurate, we believe that the discharge of gonorrhœa proceeds principally from the *upper* part of the vagina.

It may be said that the characters of the discharge will enable any one to distinguish between the two affections. This may also be true in some instances; the thin mucous discharge of the first stage of gonorrhœa, and the purulent discharge of the stage immediately succeeding, are certainly distinctive if taken in conjunction with the other signs of inflammatory action, and are no doubt diagnostic. But when the affection has assumed a chronic character, it is not distinguishable from leucorrhœa, either by reference to its seat or the character of the discharge; the discharge in both instances is the result of a similar condition of the same membrane, which in some cases is pale and relaxed, in others livid and congested.

Lastly, we have repeatedly inoculated with the matter of gonorrhœa without in a single instance obtaining a positive result, our experiments in this respect being in accordance with those of M. Ricord and others.

#### CONDYLOMA.

Duration of disease before admission :—

	Cases.		Cases.		Cases.
3 days in	6	2½ months in	2	9 months in	3
1 week	16	3 —	54	10 —	2
2 —	48	4 —	25	1 year	2
3 —	39	5 —	11	2 —	1
4 —	50	6 —	14	Omitted	35
6 —	33	7 —	3		—
2 months	54	8 —	2		400

Of these cases, 18 were complicated with bubo, and in 330 there was a discharge from the vagina.

The duration of treatment was as follows, in cases complicated with bubo :—

	Cases.		Cases.
10 days in	2	8 weeks in	1
2 weeks	5	12 —	1
3 —	2	Absconded	1
4 —	4		—
6 —	1		18
7 —	1		

## In cases not complicated with bubo :—

	Cases.		Cases.		Cases.
3 days in	5	6 weeks in	21	18 weeks in	1
1 week	39	7 —	9	Discharged, ab-	
10 days	42	8 —	15	sconded, &c.	35
2 weeks	71	10 —	6	Omitted,	7
3 —	59	12 —	11		
4 —	35	14 —	2		382
5 —	22	16 —	2		

The average duration of treatment in the first class of cases is thus shown to have been 28 days, and in the latter, those without bubo, 25 days. This average is deduced from data which include several very protracted cases; the great majority (216) were cured within three weeks. The protracted duration was in some instances to be attributed to a peculiar form of the condylomatous affection, in which the tubercles situated upon the labia majora presented a very indurated appearance, and seemed to be deeply imbedded in the substance of the labia themselves. This form is often accompanied with most troublesome pruritus. In other cases the protraction was owing to the existence of obstinate vaginal discharges, apparently leucorrhœal. In cases not so complicated, the average duration was not above 14 days. It is perhaps worthy of remark that the bubo accompanying condyloma does not display a tendency to suppurate; suppuration taking place only in a few instances, under the aggravating influence of exercise, excesses, and exposure.

In all cases of condyloma which we have observed, there was a remarkable hoarseness of the voice. In most of them the tonsils, soft palate, back of the pharynx, some part of the tongue, inside of the cheeks, or angles of the mouth, presented *white elevated patches* at some period of the disease.

The character of the eruption which accompanies or follows this disease coincides with the descriptions generally given of *psoriasis venerea*; consisting at first of brown or copper-coloured stains of small size, slightly elevated, and afterwards becoming scaly.

This eruption we consider a very common accompaniment or sequel of the disease, and more frequently the result of condyloma than of syphilis. We have not seen any other form of cutaneous eruption attendant upon condyloma.

The treatment of this affection consisted principally in friction with the sulphate of copper, and the application of a lotion containing this salt in solution, in proportions varying from 4 to 16 grains to the ounce of water. Nitrate of silver was occasionally, but rarely, employed; it seemed to act less beneficially.

It does not appear that the internal administration of mercury is of any use in the treatment of this affection. In one of the

cases included in the above tables, mercury was administered, but the cure was very protracted, the duration of treatment being 18 weeks. We ascertained that several of the patients had been put under the mercurial treatment for the cure of the disease, previous to their admission into the hospital, without any benefit. Of these, one had been under the care of a surgeon in Musselburgh for four months, and the disease had continued to progress. This woman was cured in nine days after her admission into the hospital. Another is stated in the journal to have been salivated three times before admission, without benefit. In several of the others, in spite of the mercurial treatment, the disease had been of several months' duration before the admission of the patients.

The disease, according to our experience, does not present any tendency to recur, if completely cured; but in several cases where the patients left the hospital while the condylomata were still above the surface of the skin, although at the time rapidly disappearing, the disease immediately became aggravated, and induced the patients to re-apply to the hospital.

Numerous inoculations with the matter of condyloma have been made in the hospital during the last two years; the result of these experiments was published in a former number of this Journal.\* Since the publication of that paper, we have repeated these experiments with similar results, having in several instances succeeded in reproducing the excrescence characteristic of this disease.

We have frequently observed syphilitic ulcers situated on condylomatous tubercles. Of this we have been satisfied, both by the appearance of the ulcers and the results of inoculation. In these cases we almost invariably found a simple chancre in the vulva, the result undoubtedly of a subsequent infection, the purulent matter from which had converted the ulcerated condylomatous surfaces into chancrous sores.

To those who still adhere to the mercurial or modified mercurial treatment, in cases of syphilis, this statement may be of considerable importance.

It will be remarked, that we have specified condyloma as a distinct form of venereal disease,—differing in this respect from most writers on the subject, by whom it is regarded as one of the accidents or sequelæ of syphilis or gonorrhœa. The specific character of the disease, we conceive, is made out by the result of our observations and experiments. In reference to the identity of this disease with *sibbens*, an affection at one time very prevalent in Scotland, and still so in some districts of the country, it may be interesting to inquire whether the disease has

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\* Northern Journal, vol. i. p. 89,—“Condyloma, a Primary Form of Venereal Disease identical with Sibbens,” by Dr Skae.

increased or diminished in frequency during the nine years included in our report.

The following table will illustrate this point :—

	Cases.		Cases.
In 1835-36 there were	32	In 1841-42 there were	72
1836-37	28	1842-43	61
1837-38	18	1843-44	51
1838-39	18		
1839-40	58	Total,	400
1840-41	62		

On comparing this table with the one first given, of the whole number of patients admitted during each of the nine successive years, it appears that the number labouring under condyloma were, to the other cases in the hospital, in the following relation :

	Per Cent.		Per Cent.
1835-36,	15.46	1840-41,	21.3
1836-37,	11.48	1841-42,	22.5
1837-38,	6.54	1842-43,	20.82
1838-39,	7.11	1843-44,	21.61
1839-40,	18.71		

This table shows a very small per centage for the years 1837-38 and 1838-39. This circumstance we attribute to the fact, that at that time the practice of keeping a regular journal in the hospital was first relinquished for the present method of entering the cases in a tabular form, and the probability that many of the cases of ulcerated condyloma were entered by the house-surgeons of those years under the column for *ulcers*, confined in subsequent years to ulcers of a true syphilitic nature. If this is the true explanation, it would appear that the proportion of cases of condyloma has increased during each successive year ; and whether it is the correct explanation or not, making every allowance for errors in the mode of entering a disease not generally regarded as specific, it must be inferred from these tables that the disease has increased in frequency of late years, in so far as the Lock Hospital can be supposed to afford any indication of the comparative frequency of the different forms of venereal disease.

#### PRIMARY SYPHILIS.

Duration of disease before admission to hospital :—

	Cases.		Cases.		Cases.
3 days,	43	2 months,	69	1 year,	1
1 week,	207	2½ —	5	2 —	1
2 —	222	3 —	48	Omitted,	83
3 —	159	4 —	21		
4 —	115	5 —	5		
5 —	19	6 —	10		
6 weeks,	43	8 —	4		
					1055

Of these, 202 cases were complicated with bubo, being about one in five. By the term bubo is meant inflammation of the lymphatic glands (inguinal and femoral), whether proceeding to suppuration or not.

Vaginal discharges were present in 826 of those cases.

In only 39 instances was mercury administered to the patients during their residence in the hospital.

The duration of treatment in these different classes may be arranged as follows.

1. Duration in cases in which mercury was administered.

(a) In cases without bubo :

	Cases.		Cases.		Cases.
3 weeks,	4	10 weeks,	4	Discharged, absconded, &c.	3
4 —	4	12 —	4		
5 —	3	32 —	1		
6 —	2			Total, 34	
8 —	9		31		

(b) In cases complicated with bubo :

6 weeks,	1	8 weeks,	3	12 weeks,	1
				Total, 5	

2. Duration of cases in which no mercury was given.

(a) In cases not complicated with bubo :

	Cases.		Cases.		Cases.
3 days,	5	6 weeks,	44	18 weeks,	1
1 week,	58	7 —	24	Discharged, &c.	93
10 days,	58	8 —	39	Sent to Infirmary,	3
2 weeks,	142	10 —	11	Died of fever,	1
3 —	138	12 —	16	Omitted,	20
4 —	105	14 —	2		
5 —	56	16 —	3	Total, 819	

(b) Duration in cases complicated with bubo :

	Cases.		Cases.		Cases.
1 week,	2	7 weeks,	8	Sent to Infirmary,	1
10 days,	4	8 —	21	Discharged, &c.	20
2 weeks,	14	10 —	11	Omitted,	5
3 —	22	12 —	13		
4 —	27	14 —	2	Total, 197	
5 —	24	16 —	3		
6 —	18	20 —	2		

From these tables it follows that the average duration of treatment in each of the four classes above distinguished was—

1. By the mercurial treatment :

(a) In cases without bubo,	55½ days	} Average.
(b) — with bubo,	59 —	

2. By the non-mercurial treatment :

(a) In cases without bubo,	26½ —	} 34½
(b) — with bubo,	42½ —	

With regard to any conclusion which might be made from these tables, as to the comparative frequency of bube in cases treated with and without mercury, it may be observed that the number of cases treated with mercury is not such as to justify the deduction of any opinion upon this point. But, in fact, no inference at all regarding the question is warranted by the statistics of the Lock Hospital, inasmuch as most if not all the patients affected with bube were so affected before their admission, and before, therefore, they were placed under either method of treatment.

Any inference respecting the comparative merits of the mercurial and non-mercurial methods of treatment which results from these tables, as far as regards the *duration* of the cure, would, it must be admitted, be fallacious and unworthy of trust, were it not that the results correspond with those derived from much more extensive observations.

On referring to the numerous tables collected in Devergie's *Clinique de la Maladie Syphilitique*, they will be found to present data which cannot be accurately compared with ours. His results are obtained from calculations which include condyloma and other affections excluded from ours, in those instances where the sexes are distinguished; and in the others, they are mostly from observations referring to the male sex alone. On adding the results of two tables which refer to females, we find the average to be 54 days in the cases treated by the mercurial, and 40 in those in which the antiphlogistic treatment was followed; and in taking an average from four tables referring to the male, of cases of simple ulceration, we find the result to be 48 days by the mercurial, and 34 by the non-mercurial method. These results, derived as they are from very extensive observations, although they do not correspond closely with ours for the reasons referred to, and others which might be assigned, substantiate the general inference to be deduced from the foregoing tables as to the comparative merits of the mercurial and non-mercurial methods of treatment in reference to the duration of cure.

If the statement of M. Ricord be correct, that the frequency of occurrence and the severity of the secondary symptoms are proportioned to the duration of the cure of the primary affection, these results lead to important conclusions as to the disadvantages of the mercurial method in the treatment of primary syphilis.

In 826 of the cases included in the foregoing tables, vaginal discharges were present. This fact illustrates and confirms the remark we have already made as to the frequency with which patients affected with gonorrhœa alone treat the affection themselves, or leave the cure to nature. It also leads us to offer another remark in reference to the opinion of those authors who regard

condylomatous excrescences as the effect of protracted gonorrhœal discharges, from the frequency with which they are seen in combination, namely, that chancres might be attributed to the same cause on equally plausible grounds; an opinion which no one will for a moment maintain.

An interesting question presents itself in reference to the cases of bubo, namely, whether this affection is ever the primary form in which syphilis is developed. To this question we have devoted considerable attention during the last year. Within that period four or five cases of bubo have been admitted into the hospital, in which neither vaginal discharge nor chancres existed, and in which the patients themselves denied the previous existence of any such affection. In none of these cases were we able, after repeated and minute examinations, to discover the trace of previous ulceration in any part of the genital organs. In two of them inoculation with the matter taken from the buboes, on the *second* and *third* days after they were opened, produced chancres.

The treatment of primary syphilis in the hospital, with the exception of those few cases in which mercury was administered, has been simple, antiphlogistic, and local, consisting, latterly, almost entirely in the frequent application of nitrate of silver during the ulcerative stage of the disease, and afterwards in warm water dressings or in stimulating lotions as the case might require. In phagedenic ulceration we have found the nitric and muriatic acids very useful caustics. In other cases of this kind we have derived great advantage from the application of leeches to the sore.

In the constitutional treatment of syphilis we have been particularly struck with the marked benefits resulting from severe antiphlogistic means in certain cases. General blood-letting and the use of antimony was in many instances followed by the most rapid cures. In sloughing and phagedenic sores, on the other hand, equally marked advantage resulted from the administration of tonics and generous diet.

#### SECONDARY SYPHILIS.

Duration of disease before admission into hospital :—

	Cases.		Cases.		Cases.
3 days,	2	3 months,	45	1½ year,	2
1 week,	17	4 —	25	2 —	5
2 —	28	5 —	7	3 —	4
3 —	36	6 —	19	4 —	1
4 —	45	8 —	4	5 —	3
5 —	13	9 —	8	Omitted,	27
6 —	20	1 year,	7		
2 months,	39	1½ —	2	Total,	365
2½ —	6				

In this table tertiary as well as secondary symptoms are included, it being found impossible, from the mode in which the journals had been kept, to separate them.

Of these 365 cases, 152 had been treated by the mercurial method while they laboured under the primary affection; 15 received mercury in the hospital for the cure of the secondary symptoms; and the remaining 198 were treated without mercury, both in the primary and secondary affection.

1. Duration of treatment in those who had taken mercury for the primary symptoms :—

	Cases.		Cases.		Cases.
1 week,	4	12 —	7	Died,	3
10 days,	2	14 —	4	Relieved,	4
2 weeks,	11	16 —	5	Sent to Infirm.	8
3 —	16	20 —	4	Still in hospital,	1
4 —	15	24 —	1	Omitted,	3
5 —	8	28 —	1	Discharged, ab-	
6 —	4	36 —	1	sconded, &c.	23
7 —	8				
8 —	12		110	Total,	152
10 —	7				

2. Duration of treatment in those who received mercury in hospital :—

	Cases.		Cases.		Cases.
1 week,	1	6 weeks,	3	Sent to Infirm.	1
2 —	1	8 —	1	Discharged, ab-	
3 —	1	20 —	1	sconded, &c.	1
4 —	2	Relieved,	1		
5 —	2			Total,	15

3. Duration of treatment in those to whom mercury was never administered :—

	Cases.		Cases.		Cases.
3 days,	1	8 weeks,	4	Died of icterus,	1
1 week,	8	10 —	1	— apoplexy,	1
10 days,	19	12 —	3	— pneumonia,	1
2 weeks,	46	14 —	2	Sent to Infirm.	3
3 —	23	24 —	1	Discharged, ab-	
4 —	31	26 —	1	sconded, &c.	21
5 —	15			Omitted,	3
6 —	10		168		
7 —	3			Total,	198

From the preceding tables, it follows that the average duration of treatment in each of the three classes above distinguished, was,—

1. In those primarily treated with mercury,  $51\frac{1}{2}$  days.
2. In those treated with mercury in hospital,  $40\frac{1}{2}$  —
3. In those in which no mercury ever given,  $26\frac{1}{3}$  —



The obvious inference from these tables scarcely requires to be pointed out. It cannot be doubted that the duration of the case was in most instances seriously protracted in all cases in which mercury had previously been given. This inference is not only confirmed by a careful examination of the cases as recorded in the journal, but it is apparent, on referring to the details, that in most of the cases of this description the patients laboured under the most incurable and frightful forms of secondary or tertiary syphilis. By the table (No. 1) it will be seen that three died from the ravages of the disease itself, four were only temporarily relieved, eight of the worst cases were sent to the Infirmary, and one remained in the hospital at the date at which this report closes. And on referring to the journal, we find that in the cases included in this table (*i. e.* those in which mercury had been employed for the cure of the primary affection), the symptoms were generally as follows:—Ulceration of the throat and cutaneous eruption in a majority of cases, in some instances combined, in others existing alone; periostitis in many cases accompanied these affections, in others this affection existed alone; ulcerations of the eyelids, nose, lips, tongue, cheeks, pharynx, soft palate, and larynx, of the scalp, cervical glands, arms, mammae, abdominal parietes, nates, and legs; caries of the bones of the cranium, nose, palate, lower jaw, and leg; accompanied in a great many instances with *rupia prominens*, were the most common symptoms observed. These affections had in many instances proceeded to a frightful extent, involving the loss of the nose, greater part of the hard palate, epiglottis, or tongue, and obtained only a temporary cure by their admission into the hospital.

Of the patients with secondary syphilis to whom mercury had never been administered, the symptoms with which they were affected were, in a large majority of cases, slight ulceration of the tonsils; in many this was accompanied with cutaneous eruption, principally one of the different forms of psoriasis; in other cases the eruption was the only symptom. Cases of iritis appear to us to have been about as frequent as in those to whom mercury had been given.

These were the only secondary symptoms observed in this class of cases, except in three patients included in the table, in two of whom periostitis of the tibiae, and in the other, ulcers of the leg, are stated to have been present. So far as our own observation extends, we have never seen any case of secondary syphilis accompanied with *rupia*, periostitis, caries of the bones, or any other symptom than those last enumerated, in which we did not succeed in discovering the previous administration of mercury. This discovery it is in many instances difficult to make, as the patients generally deny having ever taken mercury; so much so, that in more than one instance the fact has been

stoutly denied for a time, even by patients still suffering from salivation at the time of their admission. It was often only by very careful inquiry and cross-examination that we were able to make out the fact. From our experience, we feel satisfied that in a number of the protracted cases included in the Table No. 3, and in all probability in the three patients last referred to, mercury had been previously administered.

The treatment in the secondary and tertiary affections was partly constitutional partly local. The former consisted of warm baths, tonics, iodide of potassium, the regulation of the bowels, in obstinate cases the liquor arsenicalis, and other remedies, mostly directed towards the improvement of the general health. Indeed we do not attach any importance to any of the above-mentioned remedies, or any other, further than as they effect the latter object. The result of our experience leads us to conclude that the virtues of iodine and its salts, in the cure of secondary affections, have been much overrated, more particularly in reference to their influence upon the cutaneous eruptions consequent upon syphilis.

The topical applications in cases of ulceration consisted in the occasional application of the nitrate of silver, and in the case of sloughing sores, of nitric acid to the parts; and the subsequent use of astringent and stimulating washes or gargles. In some cases, counter-irritation, in affections of the pharynx and larynx, was found useful. In one case of laryngitis, accompanied with extensive ulceration of the pharynx, and almost complete dysphagia, tracheotomy was performed, to prevent suffocation, and the ulcerations rapidly cicatrised while the patient breathed through the artificial opening.

The cutaneous eruptions, in most instances, appeared to run a defined course, and to become well spontaneously; while in more chronic cases, stimulating ointments, such as the unguentum citrini and unguentum picis; or (in rupia, &c.) poultices, followed after the removal of the scabs by the use of lotions of sulphate of zinc, black wash, &c., succeeded in completing the cure.

#### WARTS AND ABSCESSSES.

These affections were most commonly accompaniments or sequelæ of gonorrhœa; the first was not unfrequently observed, also, after primary syphilitic sores. Many of those cases, where the warts were not numerous, and did not constitute the principal feature, were either included among the cases of gonorrhœa or those of syphilis. The cases of both affections distinguished here, are those in which one of them either constituted the chief symptom, or in which there was no other symptom present at the time of admission to the hospital. These cases were in all 89 in number, of which 61 were cases of warts, and 28 abscesses in the vulva.

The warts were mostly removed by excision, in some cases by the application of nitrate of silver, corrosive sublimate, or the concentrated acids, such as the nitric, muriatic, and acetic.

The abscesses were mostly situated in the walls of the vulva, immediately within the nymphæ, and principally on the right side. The purulent matter of these abscesses was extremely fetid, and in some instances, after they were opened, they gave rise to the formation of troublesome sinuses extending along the sides of the vagina. These were mostly treated by laying the sinuses freely open, and in the subsequent use of stimulating lotions.

#### MISCELLANEOUS REMARKS.

Of the 2429 patients admitted into the hospital, the catamenia were

Regular in . . . . .	1441
Irregular in . . . . .	788
Not appeared in . . . . .	115
Infants and children under 15 . . . . .	38
Patients pregnant . . . . .	22
— nursing . . . . .	1
Menses ceased . . . . .	4
Omitted . . . . .	20

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2429

Of these cases, the catamenia had appeared in 24 patients previous to the age of 15. Of those in which the catamenia had not appeared,

30 patients were of the age of	15
50 — — — —	16
26 — — — —	17
7 — — — —	18
2 — — — —	19

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115

Of the cases recorded during the first two years,

The menses appeared every 3d day in 1

Do. — — 2d week — 3

Do. — — 3d — — 3

Do. — — 5th — — 1

Of the whole number of patients, 380 had had children, or were pregnant at the time of their residence in the hospital. Of these 73 described themselves as married. On the supposition that the whole of these were actually married, the proportion of prostitutes, who had been pregnant, was about  $12\frac{1}{2}$  per cent. These statements refer almost exclusively to patients who have carried their children the full term of utero gestation.

From careful inquiries, we have satisfied ourselves that a large proportion of prostitutes miscarry at an early period of pregnancy.

These miscarriages take place in a great number of cases about the sixth week after conception, and in most instances the females themselves are ignorant of the fact. The frequency of their occurrence, however, is sufficiently made out by the number of cases in which the patients will admit, on close inquiry, that they have in one or more instances passed the usual period of menstruation, and on its recurrence have been affected with uterine pains, and discharge of coagula of blood.

We have directed especial attention to the colour of the vagina, as affording evidence of the existence of pregnancy; and while we must admit that in a majority of cases the characteristic lividity is present and well marked in pregnant females, we have on the one hand seen pregnant females in whom it was scarcely apparent, and others not pregnant in whom the vagina presented the colour indicative of this state. The latter were mostly cases of chronic discharges from the vagina.

In one case of gonorrhœa received into the hospital during the last year included in our report, the hymen was perfectly entire. This girl was re-admitted to the hospital a few weeks after her cure for another affection, and the hymen was then found to be ruptured.

Lastly, of the 2429 cases included in the foregoing statistical tables, the deaths in the hospital were 7. Of these, it will be seen 3 died from the effects of the venereal disease, aggravated by the use of mercury; one died from jaundice; one from apoplexy; one from pneumonia; and one from fever. It may be added, that many of the patients, during their residence in the hospital, were affected with a variety of diseases not connected with those for which they were admitted, such as fever, pleurisy, bronchitis, phthisis, &c., the occurrence of which materially extended the duration of the treatment.

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*On the Employment of Oxygen Gas as a Means of Resuscitation in Asphyxia, and otherwise as a Remedial Agent.* By  
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Edinburgh.

SINCE the failure of the British Pneumatic Institution, in the hands of Davy and Beddoes, to furnish any practically useful addition to the *Materia Medica*, it appears to have been taken for granted among medical men, that it was useless to look for remedial agents among the gases. It was natural enough to believe that what the discoverer of the physiological effects of

nitrous oxide could not achieve, other chemists were not likely to accomplish, and that the question of the therapeutic value of the gases might be considered as decided in the negative, so far at least as chemistry was concerned.

But if Dr Beddoes were a fit representative forty-five years ago of the resources of his art in the way of detecting and ameliorating disease, he would not assuredly be so now; and the chemistry of his time might be found amply sufficient to supply important remedial agents in the different gases, if taken in connexion with the improved physiology, pathology, and diagnosis of the present day. Should it further appear that, although there is no Davy now to superintend the medical application of the gases, chemistry has made such progress as to place in the hands of the most slenderly informed amongst us methods of preparing them far excelling those which were within the reach of the illustrious chemist referred to, I trust I shall be able to induce the practical members of the profession to which I nominally belong, to study again the whole subject of the therapeutic value of the gases. The special object of the present paper is to direct attention to the improved methods recently introduced in the preparation of one of the most important of them, oxygen, and to urge upon medical men the simple and economical process by which that gas can now be procured in any quantity, and of great purity, as certainly admitting of its administration as a remedial agent, at least in hospital practice. In the following remarks, I shall confine myself entirely to the consideration of the applicability of oxygen to the resuscitation of asphyxiated persons, leaving to others, who may agree with me in my conclusions, to extend its application to other cases.

It will be taken for granted, that the lungs of those in a state of asphyxia are intended to be filled with oxygen by artificial inflation, according to the method at present in use with atmospheric air in cases of drowning. I am informed, however, that medical men are not quite at one as to the practice of inflation, some considering it unadvisable, partly as consuming valuable time which might be much better spent in the employment of more efficacious means of treatment, and also as liable to occasion laceration of the substance of the lungs.

I am quite incompetent to discuss this question, which I leave to the decision of practical medical men. If they shall come to the conclusion that inflation is a dangerous remedy, from the injury it *must* occasion to the lungs, the employment of oxygen will in this respect be objectionable; but if such laceration be not a necessary result of the artificial introduction of a respirable gas into these organs, but only the occasional effect of unnecessary violence having been employed, its occurrence can only be an argument against the injudicious employment of artificial inflation.

The perfect recovery of the lower animals, and of human subjects in whom artificial respiration has been kept up for a lengthened period, without any subsequent pulmonary affection, appears to show that we need not be deterred, by any fear of the latter occurring, from the judicious employment of the practice in question. As to its alleged interference with better methods of treatment, I would only observe, that even if this could be shown to be the case in reference to atmospheric air, it may not apply with equal force to the more efficacious oxygen; and further, that in hospitals at least, where sufficient assistance can easily be procured, the artificial maintenance of respiration need not prevent the employment of every other suitable remedy.

Without any particular discussion of the question, therefore, I take for granted, that practical medical men would not allow these objections to stand in the way of the introduction of a gas into the lungs by artificial inflation, provided such a practice should be shown, on other grounds, to be likely to prove highly serviceable.

I take for granted also, that in every case oxygen would be preferred to common air, could it be readily obtained sufficiently pure and in large enough quantity. Without discussing at length the theory of asphyxia, or the mode in which remedies act which effect restoration from that condition, I assume it as universally acknowledged, that the venous blood stagnant at the lungs must be arterialized as speedily as possible. It would also, I believe, be generally conceded, that oxygen is preferable to air for this purpose; nor would it be difficult to show, from arguments founded on the chemical relations of the former,—from its diffusion-volume, and its greater solubility, that it must be superior to common air for this purpose.

This is not the place, however, for a discussion of these questions. It will be time enough when the physician is satisfied that oxygen can be procured in such quantity as to make it a practically available remedy, to consider more fully its exact value as compared with that of air. Hitherto, the processes for preparing oxygen have been too tedious and troublesome to offer the least encouragement to have recourse to them as extemporaneous methods of preparing the gas; and the objections to any attempt to keep supplies of oxygen ready made are too manifold to call for special notice. I suppose Dr Roget's views on this subject would be pretty generally acquiesced in. "It has been proposed," says he, "to inflate the lungs with oxygen gas instead of atmospheric air; and it is exceedingly probable, that if a supply of that gas were immediately at hand, together with every facility in the way of apparatus for administering it, its efficacy in restoring animation would be superior to that of common air. But the

cases must be exceedingly rare in which we can command these means; and whenever they are not in complete readiness, it would be very wrong to lose any time in waiting till we can obtain them."\*

Within the last two years, however, a modification of the well-known process for preparing oxygen from chlorate of potass has been introduced, which appears to bring oxygen quite within reach of the medical man as a therapeutic agent. It consists in mixing the chlorate with a tenth of its weight of the black oxide of manganese, the black oxide of copper, or of certain other oxides, and applying heat as is done in the ordinary process with the unmixed chlorate. The chlorate itself does not yield oxygen till it is fused, and although it gives it off with considerable rapidity at first, at a subsequent stage of the process it becomes thick and pasty from the formation of hyperchlorate of potass, and the temperature must be raised to nearly that of a red heat to secure the evolution of the remaining oxygen. During this last stage, moreover, the salt cakes and conducts heat very badly; and from all these causes the evolution of oxygen is extremely fitful and irregular. The extraordinary effect of the simple addition of a little metallic oxide in preventing all this, and quickening the evolution of oxygen, can only be appreciated by those who have witnessed it. But it may give those who have not some conception of the difference it occasions, if I mention, that with a small glass retort heated by a single spirit-lamp, containing the chlorate of potass mixed with a tenth of its weight of oxide of manganese, it is easy to obtain 200 cubic inches of oxygen within four minutes of the first application of the flame. The gas begins to come off in a few seconds after the light is applied, and literally gushes in a full stream till the whole is evolved. The metallic oxide suffers no change; but the chlorate, at a temperature much below that requisite if it be heated alone, parts with the whole of its oxygen and becomes converted into chloride of potassium. The mode in which the oxide acts in so remarkably increasing the rapidity with which chlorate of potass can be decomposed, has been made the subject of special inquiry by Mitscherlich, and will be found discussed in the recent part of Taylor's Scientific Memoirs.

I do not stop, however, to say anything concerning the theory of this action. It is of more importance to substantiate the certainty and practicability of the process; and in proof of this it may be enough to mention that in the chemical laboratories of this city, and every where else I suppose where it is known, this method of preparing oxygen has supplanted every other.

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\* Cyclopaedia of Practical Medicine, Art. Asphyxia.

For mixture with the chlorate, the black oxide of copper obtained by calcining the nitrate of copper, or the native black oxide of manganese, is generally made use of. But they have disadvantages in reference to their employment in medical practice. The oxide of copper is too expensive, and cannot be every where procured. The oxide of manganese, on the other hand, is never pure, and frequently contains carbonates, which would yield their carbonic acid when heated along with the chlorate, and deteriorate the oxygen with carbonic acid, the worst possible gas that could be thrown into the lungs of an asphyxiated person. The native oxide of manganese is therefore quite inadmissible, unless it have been previously raised to a full red heat; and even then is objectionable on the ground of its variable composition, and the uncertainty of procuring it every where, as neither it nor any of its compounds are employed in pharmacy.

I find, however, that the common red or peroxide of iron acts as well as the oxide of copper or of manganese, and as it can be procured or prepared easily every where, and is cheaper than either, I recommend it for medical use. Where it cannot be obtained ready-made, it can easily be prepared by calcining the common green sulphate of iron; and it would be wise in every case to wash the calcined mass on a filter, and heat it a second time to redness, to secure its purity. The oxide is to be pulverized, and triturated along with five times its weight of chlorate of potass, previously reduced to fine powder. The mixture should be preserved in tightly stoppered bottles, which, as a further precaution against the entrance of dust, might be provided with caps, or tied over with leather. It is unnecessary to insist at length upon the importance of preventing dust, or any other organic combustible matter, finding its way into the mixture of oxide and chlorate. Any such substance would burn in the oxygen of the salt when the temperature rose, and not merely consume that gas to no purpose, but replace it by the highly prejudicial carbonic acid.

Here, then, is a mixture which begins to part with oxygen as soon as heat is applied, and continues to give it off in an unintermitting stream, till the whole is evolved. The absolute quantity which it will yield is determined by the fact that the chlorate contains 37 per cent. of its weight of oxygen, so that 1 ounce of that salt will yield 540 cubic inches, or nearly 2 gallons of the pure gas. The temperature necessary to begin the decomposition is not high—not higher than  $400^{\circ}$ —so that within a few seconds after applying the flame of a spirit-lamp, or of a gas jet, to a glass vessel containing the mixture, the gas begins to come away.

The quantity of gas which can be procured within a given time, is the point of greatest importance in reference to its medi-

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cal application, and this will depend entirely upon the amount of material heated at once. The practical question therefore is, can a sufficient amount of the mixed chlorate and oxide be conveniently heated at a single time, to supply oxygen in the quantity requisite for its effectual application to the maintenance of artificial respiration? I think the answer is unquestionably in the affirmative. When air is employed in inflation, 100 cubic inches are recommended to be thrown in each time, in the case of a full-grown adult. I suppose, therefore, that if 300 or 400 cubic inches of oxygen could be supplied each minute, it would suffice.

Two retorts of 12 oz. liquid capacity, heated by argand or rose burners, would suffice to obtain the gas at this rate. Should it be thought desirable to have it supplied in larger quantity, it would only be necessary to enlarge the containing vessel, which in no supposable case need be of formidable dimensions. The retorts, with a view to convenience and economy, might be constructed of sheet brass or iron, and could be heated by gas-burners in the ordinary way, by gas burned above wire-gauze, or by placing them at some little distance over a common fire. In every case it would be desirable to have at least two similar generators, so that when the contents of the one were exhausted, the other might immediately be substituted for it, while it was refilled.

The proportion of metallic oxide recommended to be added is a tenth of the weight of the chlorate; but from experiments made in my laboratory by my assistant, Mr David Forbes, it appears that the quantity of oxide may be advantageously increased, and that the chlorate yields its oxygen most freely when mixed with a fourth or a fifth of its weight of the oxide.

Although the metallic oxide suffers no change, and may be used over and over again any number of times, provided it be heated to redness after the chloride of potassium resulting from the decomposition of the chlorate has been washed from it, its action is not so purely mechanical that it can be replaced by other inert bodies. Neither sand nor clay, in a state of coarse or fine division, has any effect in increasing the evolution of oxygen from the chlorate, which is so far to be regretted, as their cheapness and abundance would have made them preferable to the rarer and more expensive oxides: but after all, oxide of iron is not very costly.

What I should propose then, is, that at our public hospitals, lying-in institutions, humane societies' rooms, police-office stations, and wherever else cases of asphyxia frequently come before the medical officers, the mixture of chlorate and metallic oxide should be kept ready for use. Along with it there should be provided glass or metallic retorts, with suitable arrangements for heating them, and one or more gas holders to receive the gas. The

best form of gas-holder, I believe, would be that adopted at the gas-works, viz., a cylinder or drum of sheet metal, closed at one extremity, suspended with the mouth downwards in a cylinder like itself inverted, filled with water. The drum being hung by chains passing over pulleys and terminating in counterpoising weights, is filled with water by sinking it in the lower cylinder or well, whilst the air is permitted to escape. When oxygen or any other gas is poured into the drum, the latter rises out of the well to a height proportionate to the quantity sent into it. The convenience of this form of arrangement is, that gas can be drawn off by a properly arranged tube from the upper part of the drum, whilst it continues to be thrown in from below. To the exit or delivering tube, a flexible pipe of convenient length and dimensions should be attached at one of its extremities, and at the other made to screw or otherwise fit into the aperture provided for the entrance of air in the bellows to be used for inflation. A valve in the pipe of the bellows opening outwards, would provide a complete security against any return of the oxygen when the handles of the instrument were separated, so as to produce a vacuum within it; but it would not be absolutely necessary. With gas-holders of the construction recommended, kept full of water, and the rest of the apparatus and the mixture ready for immediate use, inflation with oxygen might be commenced within a few minutes after a case was brought in, and might be carried on for any length of time. Experience would soon decide what was the most convenient form and size of generating vessels, a point on which I cannot at present speak so confidently as I shall be able to do in a few days.

So far as the expense of the materials is concerned, it would present no serious objection to the employment of the gas.

The original outlay for gas-holders and other apparatus might be about £5. Chlorate of potass, in consequence of its large consumption in the preparation of lucifer matches, can now be obtained for 6d. an ounce retail, or 4d. wholesale, and an ounce will yield, as we have seen, 540 cubic inches of oxygen. I suppose none of our benevolent institutions would think a man's life purchased too expensively at the cost of even many ounces of the chlorate at that rate. There is every reason, however, to expect that the chlorate will soon be cheaper, as a method of preparing it from bleaching powder has been recently recommended anew to the attention of manufacturers, as supplying it quite pure at a lower rate than the old process.

On this point, however, I am less anxious to insist, than on the rapidity with which oxygen can be procured in a state of purity. The latter point I have examined only by its action on combustibles, which is that of the purest oxygen. I propose, however, when I get the necessary arrangements made, which will be speedily, to breathe it myself, as the best means of ascer-

taining its purity in reference to respiration. I may remark here, however, that it would always be advisable to pass the gas through an intermediate vessel containing a little caustic potash in solution, both to detain any carbonic acid resulting from the presence of combustible matter in the original mixture, and to arrest any of the latter carried over mechanically in the current of oxygen. A Woulfe's bottle for this purpose would cause no great complication of the apparatus, and would be an effectual means of securing the purity of the gas.

In conclusion, I would observe that this method of administering oxygen appears peculiarly applicable to midwifery hospital practice. The quantity required for the inflation of the lungs of a still-born infant could easily be supplied as rapidly as wanted by even a small apparatus; and the whole arrangement for yielding oxygen could be made ready in working order as soon as labour began, so as to secure the gas being forthcoming the moment it was wanted. The method proposed would apply to every form of asphyxia occurring in hospital practice, to cases of poisoning with opium in that and perhaps in private practice also, and to other states of disease or injury which will at once occur to practical men.

I have brought the matter in its present imperfect form before medical men, with a view to obtain their advice and assistance in making the method proposed practically available. Researches are at present in progress in my laboratory as to the most convenient shape and size of the generating and receiving vessels, and likewise into the methods best adapted to free the oxygen from any trace of impurity. Some difficulties have arisen in the course of these inquiries, which induce me to delay fuller publication till they are completely investigated. As soon as the necessary researches are finished, I shall bring the matter again before the public.

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*Surgical Cases.* By JAMES DUNCAN, M.D., Fellow of the Royal Colleges of Surgeons of England and Edinburgh, one of the Surgeons to the Royal Infirmary, Edinburgh.

*Suppuration of Knee-Joint from Injury—Cure.*

MARY GILLIES, admitted July 19, 1844. About a month before admission, during some domestic squabble, she was kicked out of bed by her husband, and came to the ground with great violence on the left knee.

Next morning the knee was swelled and painful, but not to such a degree as to confine her to bed. Both pain and swelling, however, continued to increase, and soon became such as to pre-

in moving about; and for about ten days before sufferings had been so severe as entirely to de-

the knee was much swollen, very tense, and the slightest motion giving rise to great pains around the articulation, but parts were much inflamed and tender. The distended with fluid, the patella perfectly distinct. There was disturbance. The skin was hot.—Tongue moist,—reddish, with brown fur, no appetite,—and much emaciation.

After her admission, an opening formed spontaneously on the inner side of the knee-joint, and a large quantity mixed apparently with synovial fluid, was discharged, and gave some slight relief to the pain.

As the opening was insufficient to give free exit to the discharge, the cavity still retaining a considerable degree of tension, a free incision was made into it, and a considerable quantity of matter evacuated. Opiates were given freely, and  $\text{ʒvi.}$  of wine allowed daily,—and the joint enveloped in an emollient poultice.—Haust. ol. ricini.

These means were followed by a considerable improvement in all the symptoms; and on the 25th it is stated in the report that the pain was much less acute, and that the pulse did not exceed 80. The discharge, which consisted of purulent matter mixed with synovial fluid, continued in moderate quantity, and its flow was increased by pressure applied over the opposite side of the articulation to that on which the opening had been made.

On the 28th she complained of pretty severe pains of abdomen, attended with some bilious vomiting and diarrhoea. These were relieved by hot turpentine, with laudanum fomentations, and a draught of castor oil.

On the 1st of August, it is stated in the report that purulent matter is still discharged pretty freely by the opening, but that there is no admixture of synovia, and that its flow is not increased by pressure over the articulation. In every other respect the woman continued in a very satisfactory condition.

From this date every thing progressed favourably, with the exception of one or two attacks of the bilious vomiting and diarrhoea, attended with slight tenderness of abdomen, requiring the application of leeches, and the exhibition of calomel and opium, bismuth, and Dover's powder, &c. The discharge diminished rapidly, and with the exception of some tenderness in the neighbourhood of the incision, there was no pain on pressure over the articulation. The M'Intyre splint had been applied immediately after her admission, with the view of keeping the parts perfectly at rest, and we were exceedingly

desirous that it should be continued, because, from a great degree of lateral mobility which existed, indicating destruction of the ligaments, it was apprehended that partial dislocation of the articular surfaces would take place. The woman, however, who was exceedingly troublesome and ill-tempered, would not submit to the restraint, and notwithstanding all our remonstrances removed the apparatus as soon as it was applied.

The consequence was, that during the progress of the case what we apprehended occurred,—the tibia being partially dislocated backwards.

With the exception, however, of the deformity which this necessarily produced, it did not appear to interfere very materially with the progress of the cure, or the strength of the limb afterwards. One or two small abscesses which formed at intervals in the vicinity of the opening were evacuated, and some minute spiculæ of bone were discharged along with the pus, these being apparently from the internal condyle bone, the articulation itself having been previously completely obliterated. She was discharged with the joint completely ankylosed, and walking easily with the aid of a stick. She has returned at intervals to the hospital, and is now walking easily without any support, and without any farther inconvenience than that produced by the ankylosed state of the joint.

Some months previously to this woman's admission, another case of suppuration of the knee-joint came under my care in a man aged fifty.

In that case the suppuration had been induced by an injury in an articulation, which, from the description which he gave, had apparently been the seat of some chronic affection of the synovial membrane. He had continued at his employment for some time afterwards, until the symptoms became so aggravated that he was obliged to put himself under medical treatment. Notwithstanding free local depletion, suppuration took place, and when I saw him, the parts high up the thigh and down the leg had become seriously involved, so as materially to complicate the case. The pus, which threatened to give way spontaneously, was evacuated by incision, with temporary relief, but without any improvement to the general symptoms, which were very aggravated in character, and such as, in the opinion of the other surgeons, to forbid amputation. He died in about ten days after coming under my care. On dissection, the cartilages were found detached from the bone, softened as if macerated, and eroded in many points; and there was extensive purulent infiltration as high up as the trochanter minor and down to the middle of the leg.

Several causes appear to have operated in producing the difference of result in these two cases of suppuration of the knee-

joint. These were, I believe, principally the difference in constitution,—the difference in the state of the articulation at the time the patients met with the accidents,—and, lastly, the difference of period at which the pus was evacuated. The woman in whom the case terminated successfully was in possession of a tolerably sound constitution, which has not been injured by her mode of life. In the man, on the other hand, it was the reverse; and although not absolutely intemperate, still he was in the habit of partaking pretty freely of ardent spirits. In the woman, the injury leading to the inflammation was inflicted upon a joint previously in a perfectly sound condition; whereas, in the man, there had existed apparently some chronic affection of the synovial membrane, a state of matters which not only militates against the parts taking on a healthy action, but likewise increases the liability of the other tissues entering into the composition of the joint to become affected.

The principal cause, however, of the unfortunate result, was, I believe, the period at which incision was had recourse to. In the woman, the pus was evacuated by free incision at an early period; whereas, in the man, it was not evacuated until the matter had made its way out of the joint, and had diffused itself pretty extensively amongst the muscles and tendons up the thigh and down the leg.

Experience has clearly proved that the earlier incision is had recourse to in cases of suppuration of a joint depending upon inflammation of the synovial membrane the better. By delaying we not only incur the risk of having the matter escaping from the joint and burrowing extensively amongst the soft parts in the neighbourhood, but there is great danger likewise of the other tissues, the cartilages, and bones becoming affected; both of which occurred in this case and led to the fatal termination. Much has been said about the bland nature of pus; but there is no doubt that when it is pent up it quickly erodes the articulating surfaces.

The sooner, then, after suppuration is established that we evacuate the matter the better. The incision must be so placed, and so large, as to allow of its free exit, and prevent it from lodging. For this purpose counter-openings may be required; and if at any time it should appear to bag at any part, free incisions should at once be made. If there be a doubt as to whether the collection is purulent or otherwise—a doubt which can seldom exist—it may be prudent, as suggested by Sir B. Brodie, before incising, to make a puncture with the exploring needle.

These means, however, will be of little avail in very many cases, unless at the same time complete immobility of the joint be maintained. In the case of our patient, this latter we could not unfortunately command, from the reasons which I have already alluded to, and I have no doubt that the cure was in consequence

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protracted. The state of the bowels requires of course to be carefully attended to, and the strength to be supported by the appropriate means.

The occurrence of the bilious diarrhoea and vomiting is by no means an unfrequent occurrence in these affections.

Suppuration of the knee-joint is always a very formidable affection; but when it depends upon inflammation of the synovial membrane alone, uncomplicated with disease of the bone, the patient will, in the majority of cases, under properly conducted treatment, recover; preserving the limb, with however, except in very rare instances, an ankylosed joint.

*Extensive Lacerated and Penetrating Wound of Knee-Joint—  
Recovery.*

JAMES O'BRIEN, æt. twenty-five, temperate, was admitted into the Royal Infirmary on the evening of Nov. 24, 1844. Had been dissipating during the greater part of the day, and, about an hour before admission, when in a state of intoxication, had fallen upon an earthenware basin. The vessel broke, and the left knee coming in contact with the fragments, the wound for which he was admitted was the result.

He was seen immediately after the accident by Mr Miller, who, finding that it would be impossible to treat the case properly in the man's own house, recommended his removal to the hospital.

There was an extensive lacerated wound of about six inches in length, passing right across the anterior aspect of the joint immediately below the patella. The ligamentum patellæ was completely divided, and a small fragment of the patella itself had been detached. The capsular ligament was likewise extensively divided, the internal condyle being completely exposed, and the external to a very limited extent.

The man, who was a healthy looking, rather spare individual, had in a great measure recovered from his state of intoxication when I saw him, but he appeared to treat the accident lightly, and not the slightest constitutional disturbance had been produced by it.

I had been sent for under the anticipation that immediate amputation would be required, but the circumstances of the case did not appear to me to warrant our having recourse to such a step, and Sir G. Ballingall, who saw the patient along with me, and Mr Syme, who likewise saw him, coincided in this opinion.

One or two small portions of partially detached fibrous tissue, and the small fragment of the patella which had been separated, were removed, and two small vessels which bled were ligatured.

The integuments were brought together by several points of interrupted suture, a straight splint extending from the middle

of the thigh to the middle of the leg was applied on the posterior part of the limb, and the whole extremity was laid on an extended M'Intyre splint. Cloths, wetted in cold water, were ordered to be applied assiduously, and a draught containing sol. m. morph. gtts. xl. was given at bedtime.

*Nov. 26.* There was some hemorrhage from the wound during the night, which ceased spontaneously. He has been very restless, and the pulse is at present 108, and the skin somewhat hot. Tongue moist. Complains only of very slight uneasiness in the joint, and there is no irritation around the wound.

Forty leeches were applied to the knee, and a pill containing pulv. opii., gr. j.; tart. antim. gr.  $\frac{1}{2}$ , was ordered to be given every two or three hours.

On the 26th the pulse was 100; the skin of nearly natural temperature; tongue moist; knee free from pain or uneasiness; bowels not moved. Twenty leeches were again ordered to be applied to the knee. A castor-oil draught to be given, and the opiate antimonial pill to be suspended until the bowels were moved.

*27th.* Bowels freely moved. Pulse 84. Skin cool. Knee continues perfectly free from pain, and there is no irritation about the wound.

Forty leeches were again applied, the pills were continued, and the castor-oil was ordered to be repeated in the evening.

On the 28th, the pulse was 96, of moderate strength. The knee continued perfectly free from pain, and although there was some slight straining upon the sutures, still there was no irritation around them. As it was feared, however, that they might give rise to some irritation, and as it was now evident that the integuments would not unite by the first intention, two of the sutures were cut, and a quantity of partly fluid and partly coagulated dark blood was pressed out from under the flaps. Bowels not moved by oil. Thirty leeches to be applied to stomach.

R. Calomel. . . . gr. vi.  
Pulv. Jalapæ C. . . .  $\frac{5}{8}$  j. M. St. stm.

R. Tart. Antimon. . . . gr. j.  
Sulph. Magnes. . . .  $\frac{3}{4}$  j.  
Aquæ . . . .  $\frac{3}{4}$  viii.

Solu. su.  $\frac{3}{4}$  j. tertia q. q. h.

*29th.* Bowels freely moved by injection. Joint continues free from pain. The remaining sutures were removed. Cont. Thirty leeches to be applied.

*Dec. 1.* Pulse 96, of good size and strength. Bowels freely moved. Tongue moist. The joint continues perfectly free from pain; but the divided edges of the integuments gape considerably. The deeper-seated parts appear to have united; but the cellular tissue, exposed by the separation of the integuments, is



covered by a thin film of slough. The discharge, however, is pretty healthy, and appears to consist of pus unmixed with synovial fluid.

Apply water dressing. From this time every thing went on well. In two or three days the thin slough separated, and a healthy granulating surface presented. On the 5th Dec., the red wash was applied, and the wound contracted with great rapidity, the parts being supported and gentle pressure applied by a simple roller carried around the joint. Both splints were kept applied a considerable time, and, after the M'Intyre was removed, the straight one was continued for ten or fifteen days.

We were exceedingly cautious, knowing the dangerous consequences which had followed early use of the limb in somewhat similar cases, in allowing the man to use any freedom with the joint. He was, therefore, kept in bed somewhat longer than was perhaps necessary; but on the second or third day after being allowed to rise, he moved about with ease, the straight splint being still retained.

He left the house on the 27th January, having dispensed with the use of the splint for some time. He moves about with perfect ease. The motions of the joint are limited; but I have no doubt that ere long they will be almost as free as previously to the accident.

About a fortnight after his dismissal, the man again presented himself at the hospital; he had then returned to his work, which required a good deal of exertion of the limb, and this he was able to undergo without much inconvenience. The motions of the articulation were then free, and he could bend it readily to a right angle.

*Dislocation of Patella—Extensive Opening into Knee-Joint by Sloughing—Cure.*

MACKAY, æt. thirty-five. This patient was admitted on the 23d February 1844. She stated that she was in the hospital during the preceding month of November, in consequence of a dislocation of the patella by a fall, and that on the 16th of the present month, her limb being still weak, she fell again, dislocating the bone a second time, and severely contusing the soft parts on the inner side of the knee-joint and lower part of the thigh. The reduction of the dislocation was effected by herself, but the contusion was followed by much swelling and pretty intense inflammation of the parts. An abscess formed, and three days previously to her admission this gave way at two or three points, and a considerable quantity of pus mixed with blood was discharged.

On her admission there was still considerable swelling on the inner side of the knee-joint. The integuments were of

a dark red colour, and the cellular tissue could be seen in a sloughy state through the different openings. The articulation itself was free from pain, and could be moved without giving rise to much uneasiness. There was no constitutional disturbance, but the woman complained of much weakness.

The openings were ordered to be dilated and a poultice to be applied.

℥iv wine daily.

The woman remained in much the same condition until the 1st of March, when the slough separated, leaving an opening of three inches in length into the articulation. The parts from which the slough had been detached presented a healthy granulating aspect, and the surrounding swelling and redness had much diminished. The articular surface of the patella and the internal condyle were completely exposed, and presented a perfectly healthy appearance, not the slightest trace of irritation or inflammation being present. There was now some slight constitutional disturbance. The skin was somewhat hot. Pulse 100. Tongue furred, moist. A splint was placed behind the limb.

The water dressing was applied, and an opiate antimonial was given every four hours. The constitutional disturbance continued for a few days, during which time leeches were repeatedly applied, but the pulse never rose above 110; and on the fifth day afterwards, when the state of the articular surfaces was examined by gently raising the upper flap of integuments, they were found covered with healthy granulations. The discharge was by no means very profuse, and consisted of an admixture of pus with synovial fluid. The red wash was now substituted for the water dressing, and a bridge of skin which existed between the large opening and a small ulcerated one below it was divided.

During the progress of the cure, the wound began to contract, and continued to do so with considerable rapidity; the discharge at one time appearing to bag somewhat on the outer side of the articulation, a counter opening was in consequence made, so as to facilitate its escape.

From the destruction of the ligaments there was a considerable tendency to a falling of the knee inwards, but this was remedied by the employment of lateral splints so applied as not to interfere with the dressing of the wounds. By the end of the first week of May, the opening on the inner side of the articulation had completely closed, but a small one still remained on the outer side, from which a few drops of pus were discharged. It was then evident that partial ankylosis had taken place, and the tendency to inversion of the knee had almost gone; but it was thought well still to support the parts,

and lateral splints of thick pasteboard, retained by means of the starch bandage, were accordingly applied.

With the exception of the constitutional disturbance which followed the exposure of the joint, and continued for several days, and one or two attacks of bilious diarrhoea which yielded under the appropriate remedies, no symptoms calculated to give any alarm occurred during the progress of the case.

The patient was, in consequence of her destitute condition, kept in the hospital longer than was necessary. When dismissed she could move about easily with the aid of a crutch, but was seen repeatedly afterwards moving about pretty easily, with no other support than a walking-stick; and I have since been told that she has even dispensed with that.

Some months after her dismissal she returned to the hospital with an abscess on the inner side of the articulation, connected with a small portion of the articulation on the outer side of the patella, where the cavity had not been completely obliterated. This had been produced by some indiscretion on the part of the patient, who had been leading a very intemperate life for some time previously; in fact, she was in a state of intoxication when admitted, and had walked to the hospital without much inconvenience. The abscess was opened, and under the appropriate treatment got rapidly well.

I have brought these two cases together, inasmuch as, although in the one the articulation was immediately laid open by the injury, and in the other only as a secondary consequence of its effects, they resembled each other in this, that the articular surfaces were in both in a perfectly sound state when they were exposed.

The first case was remarkable for the little constitutional disturbance which followed, as well as for the exceedingly slight degree of local irritation produced by the injury. In the second both the local and general disturbance were likewise comparatively slight, the latter never, except for two days, being at all such as to give rise to any uneasiness, and the former having all along proceeded in a very satisfactory manner.

In both, the openings into the joint were very extensive, but I do not know that in either the mere extent of the opening added much to the danger. There is, I believe, much truth in the remark made by Mr Alcock in his very valuable paper on *Injuries of the Joints*, in the *Med. Chir. Trans.*, vol. xxiii. "Contrary to the general impression," he says, "I am strongly inclined to the conclusion, that injuries to joints are not fatal in proportion to the extent of surface laid open. The most dangerous of these wounds I believe to be punctured, or such as a musket-ball creates, a small lacerated and contused opening, with more or less mischief to the external parts. The most violent inflammatory action ensues in the highly susceptible

synovial membrane, which, for a certain period, or until disorganization (the result of violent action) takes place, still retains its distinctive characters of serous or synovial membrane. Fluid is effused or pent up—the whole limb becomes involved—the system takes the alarm, and sympathizes often to a fatal extent. No kindly suppuration and granulating action take place over the surface of the synovial membrane, altering its characters and susceptibility,—a result which follows not unfrequently in a wound laying a joint fairly open, quickly destroying, of course, the texture and character of synovial membrane, and leaving ankylosis as the only favourable result possible.” The same opinion is expressed by Mr B. Cooper, who observes that in large wounds the synovial membrane quickly loses its distinctive character; the great shock of the injury tending also to prevent inflammation. In punctured wounds, he adds, the matter is pent up, and the synovial membrane is excited to violent inflammation.

The case of the woman M'Kay appears to me to illustrate very well, as far as a single case can, the truth of these observations, in the rapidity with which the synovial membrane lost after exposure its distinctive characters. On the fifth day after the joint was exposed, healthy suppuration had supervened, and the articular surfaces, when examined, were found covered by healthy granulations. The most favourable result which we could expect in such a case as this, was the ankylosis which occurred. This was no doubt merely fibrinous, and afforded what I have omitted to state in the appendix to the case, a very good example of the rapidity with which these new tissues are absorbed when increased action is set up in the neighbourhood. I have mentioned that she was re-admitted a considerable time after her dismissal, in consequence of a partial return of the inflammatory action. It was then found, on examination, that the ankylosis was much less complete than it had been previously. The parts, however, regained their strength some little time after the inflammatory action was subdued.

As to the treatment in this case, the beneficial effects of the change from poulticing to a more stimulating dressing was well shown. I believe that emollients are very frequently applied for a longer period than is necessary, and that a degree of unhealthy action with puffy swelling is kept up by them, which subsides rapidly when a change is made in the application.

In the case of the man O'Brien the indication was, of course, to bring the parts together immediately, and obtain, if possible, union by the first intention. This was accordingly done, partly by the suture and partly by attention to position, means being at the same time adopted to keep the parts perfectly at rest, and cold assiduously applied. The great object in treating such a case is to prevent the occurrence of inflammation; and it has

been well remarked that it is generally easier to prevent inflammation in the joints after a wound than to arrest its progress when once begun. In addition to the means just alluded to, I cannot help ascribing the success of this case in a great measure to the free and repeated application of leeches. Venesection may in such cases be required; but I am inclined to think that free local depletion has a more powerful effect in preventing inflammatory action, as well as in subduing it when it has once begun; but to be used with effect they must be applied liberally. This point in the treatment has been alluded to by Sir G. Ballingall in his *Military Surgery*, who states that the satisfactory results occurring in injuries of the joints after the battle of Waterloo, were ascribed, so far as the treatment was concerned, to the free and repeated application of leeches.

The cure was remarkable for the complete absence of any local irritation in so far as the joint itself was concerned, a result which I scarcely hoped for when first called to see the injury, as well as afterwards, when union of the integuments failed, and the cellular tissue was so extensively exposed.

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*Account of a Singular Effect produced by Acupuncture in a Case of Protracted Lock-jaw.* By WILLIAM SELLER, M.D.,  
Fellow of the Royal College of Physicians, one of the  
Physicians to the Royal Public Dispensary, &c. &c.

CASES of lock-jaw of long duration are not so uncommon, at least in females, as to attract great attention. Of a case of this kind, however, I thought it worth while to put together some particulars several years ago, on account of the singular effect which followed the attempt to cure it by acupuncture. The case had been previously treated at intervals by several medical men; it was put into my hands in May 1827 by Dr E. Binns, who was then pursuing his medical studies here, and for the first period of the treatment I had the benefit of his assistance.

The patient was an unmarried woman about twenty-five years of age, a lady's maid, who by her own report, though usually active and healthy, had been subject from an early age to frequent attacks of suppurating sore throat, in which the jaw often became nearly immovable for two or three days before the discharge of the matter. In the spring of 1826, she suffered severely from one of those attacks, which, after lasting for several weeks, ended in an entire loss of the motion of the jaw. Some severe symptoms, which by the description appear to have been of a hysteric nature, occurred about the same time.

This attack of lock-jaw, under the use of general and local

detraction of blood, blistering, and the like, yielded at the end of six weeks, in so far that she could put a teaspoon into her mouth.

In this state the jaw continued till the month of January 1827, when it became again completely fixed without any new sore throat.

The same treatment as before, with the addition of galvanism, was resorted to, but on this occasion produced no benefit.

This account is drawn from her own statement; but I have ascertained from some of the medical men who had seen her up to that time, among others from the late Dr Abercrombie, that it is in the main correct.

It will be seen that the case came under my notice at the end of more than a year after the commencement of the first severe attack of lock-jaw, and four months after the jaw became completely fixed a second time. For several weeks previously, she had been under no medical treatment. At this time (May 1827), the jaw remained fixed against the strongest force that could be ventured on. There was pain in the regions of the temporal and masseter muscles on both sides, which was aggravated by any attempt to open the mouth forcibly. Some degree of swelling and a variable state of redness existed in the same regions.

The catamenia had not appeared from the time of the first attack of lock-jaw in the spring of 1826; and for the same period, or for about fourteen months, she had lost her voice, being able to speak only in a whisper. With the right eye she could just distinguish light, and saw so imperfectly with the left, that she found her way by groping when she entered the room. This affection of the eyes came on along with the first attack of lock-jaw, and amounted for seven weeks to total blindness.

From each jaw several molar teeth had been extracted, when the first attack of lock-jaw threatened, so that she could suck fluid matters with ease into her mouth. Her chief diet since the jaw became last fixed had been bread soaked in tea, as soups, eggs, and such other articles of animal food as she could take in were generally rejected by vomiting. Under this diet, her strength had become much reduced, her limbs were feeble, she walked with difficulty, and the slightest exertion fatigued her. The pulse was feeble, rather frequent. The bowels were easily moved; the urine was scanty and high-coloured. She complained of frequent headache and of restless nights; yet none of the more decided symptoms of hysteria were discoverable, though it is probable that the clenched hand, which I observed often afterwards, escaped my notice at this time.

By the use of laxatives, antispasmodics, mild tonics, and a more nourishing diet, persevered in for four or five weeks, her appetite and strength improved considerably, while no effect

whatever had been produced by the fomentations, stimulating liniments, and the like, which were applied in the mean time to the jaw and temples.

At that time the acupuncture had reached the height of its reputation on the Continent, and had begun to attract a good deal of attention in this country. One case of hysteric lock-jaw had been reported as successfully treated by it.\* In that case, reported by Carraro, the disease was of no more than two days' standing; two deep acupuncturations were made in the masseter muscles, and in three minutes the spasm of the jaw ceased.†

Although the case which I had to treat was unequivocally connected with hysteria, there was reason to think, from the inflammatory symptoms with which the disease originally set in, from the pain, swelling, and redness in the regions of the masseter and temporal muscles, present in a greater or less degree from the beginning, and from the relief obtained in the first instance by antiphlogistic treatment, that the affection was not purely spasmodic, but was kept up by a rigidity of the muscles closing the jaw, produced by previous inflammation, in consequence of which the antagonist muscles, under the mere influence of volition, had become inadequate to the effort of opening the mouth. I admit the probability of protracted forms of lock-jaw in females partaking in general of the same character with the long-continued contraction of such joints as the knee-joint, justly acknowledged to belong to hysteria, in which the acupuncturation of the affected muscles has been more recently practised with success;‡ yet the distinctness of the inflammatory symptoms in the case in question appeared a sufficient warrant for regarding it as allied to the sort of affections referred by Sauvages to *trismus inflammatorius*, and described by J. C. G. Ackermann as *rheumatic trismus*.

It was this view of the case which made me consider it more reasonable, in making trial of the needles, to insert them into the muscles which open the jaw, in the expectation of exciting these to such a contraction as might overcome the rigidity of their antagonists. My intention was, as a first experiment, to introduce two needles, one on each side of the mesial line, between the chin and the hyoid bone; but as the patient showed signs of alarm at the place chosen, the first needle was inserted close to the anterior border of the sterno-mastoid muscle, immediately behind the ramus of the jaw, as near as I could judge to the course of the digastric muscle. The needle had not penetrated much beyond the integuments, when to my surprise (for I had not great faith in the remedy), the teeth began to

\* See *Edinburgh Medical and Surgical Journal*, vol. xxvii. p. 343.

† *Annali Universali di Medicina*, Luglio 1825, p. 65.

‡ *Wilson*, *London Medico-Chirurgical Transactions*, vol. xxi. p. 107.

grate on each other, and the jaw to be drawn forcibly, by short convulsive efforts, to the side where the needle was inserted. I made haste to introduce another needle into the corresponding part on the opposite side; and now the jaw was drawn from side to side, not by single alternate contractions, but by several convulsive movements on one side, followed by a nearly equal number towards the other side, interrupted occasionally by a momentary opening of the mouth, to the extent of about two fingers' breadth. This momentary opening of the mouth appeared to take place only when the last convulsive movement on the one side, coincided with the commencement of a new series of such movements on the other side.

When things had gone on in this manner for about one minute, the grating of the teeth grew more violent, while the lateral motion became less extensive than before; and this change was accompanied with an evident hardening of the masseter and temporal muscles, indicating that a reaction in these had arisen. The needles were immediately withdrawn—yet the same convulsive movement upwards continued. I introduced my thumbs, one on each side, between the jaws, where the teeth had been extracted, and was able, with some difficulty, to keep the teeth nearly free from each other, by pressing down the jaw. Even after this upward movement set in, an occasional temporary opening of the mouth took place, followed by a renewal of the upward motion.

About five minutes after the needles had been inserted, or about four minutes after they were withdrawn, the convulsion ceased. But in five or six minutes it was renewed, yet not with the same violence, nor was it of so long duration.

During the convulsion, more particularly in the latter part of it, when the upward movement prevailed, the patient suffered an increase of pain in the temples, and in the regions of the masseter muscles, which continued for some hours. In the joint itself there was no pain.

After this first trial of the needles, the patient could move the jaw from side to side with tolerable freedom, and open her mouth in a slight degree by a voluntary effort, while by pulling the jaw gently down she could introduce her finger.

That success, partial as it was, offered encouragement to proceed; but an unexpected occurrence gave room for some hesitation. The same evening, seven or eight hours after the insertion of the needles, the convulsion of the jaw returned spontaneously, with as much violence as at first, and lasted much longer. It was still going on when I arrived not less than half an hour after its commencement. I pressed down the jaw, and in two or three minutes the motion ceased.

My hesitation to proceed after this occurrence was overcome by the patient's own desire for the repetition of the operation.



On each of the two following days, two needles were inserted, one on each side of the mesial line, between the chin and the hyoid bone, the effect being precisely the same, nearly to the minutest particular, as on the first day. The convulsion continued after the needles were withdrawn, ceased and became renewed again after a few minutes, and returned spontaneously in the evening on both occasions.

Some increase of voluntary power over the jaw followed both applications of the remedy.

After this the acupuncture was interrupted for a week, owing to some derangement of the stomach and bowels, produced probably by the opiates administered with the expectation of preventing or diminishing the spontaneous movement of the jaw. During this period the joint retained all the motion it had acquired.

On resuming the remedy, several leeches were applied to both sides of the head, about four hours after each acupuncture, with the effect sometimes of preventing the spontaneous convulsion altogether, and always of lessening its severity. After each trial of the acupuncture, some improvement was observable; but as the spontaneous convulsion was almost always followed by a slight loss of motion, the progress made was but slow.

The needles were usually inserted to the depth of half an inch, and sometimes to the depth of an inch; most commonly, as above mentioned, one was placed on each side of the mesial line, between the chin and hyoid bone, while sometimes two or three were introduced, one above another, as near as possible along the mesial line in the same region, and when they were withdrawn about the end of one minute, the effect never deviated materially from that before described. It would have been altogether unwarrantable to make trials with the mere view of ascertaining what variations of effect might result from different methods of using the needles; there was, however, sufficient evidence that the convulsion continued longer, and was more severe when the needles were allowed to remain beyond the usual time, and on one occasion when the needles were in my absence introduced into the masseter of each side, the convulsion was reported to have been more severe owing to the greater violence of the upward movement. No effect was produced on another occasion, when a needle was inserted above the zygoma into the temporal muscle. It must be confessed, however, that the *modus operandi* of the needles in the production of the convulsive movement is far from having been made out in a satisfactory manner.

In combination with the leeches, as above described, the acupuncture was persevered in for ten days, and at the end of that time the patient could open her mouth nearly to the extent of

two fingers' breadth, and with a moderate force draw down the jaw somewhat farther, while she could chew soft substances with tolerable ease.

In this state she went to the country. On her return, at the end of five weeks, she stated that she had gone on improving in health, and in power over the jaw, by drawing it down frequently with her fingers, till a few days before she returned, when being exposed for some hours in a cart to rain in a cold east wind, she was attacked with a severe and protracted convulsion of the jaw, followed by a considerable loss of its motion.

At this time the jaw could be pulled down nearly as far as before, but the voluntary power over it was by no means so great as when she left Edinburgh.

At her own desire, the needles were resorted to again, after an interruption of six weeks. They were applied in the same manner as before, and the effect was of the same kind as on the former occasions; but the convulsion of the jaw was much more severe, and the upward motion, in particular, was so powerful that one person could seldom succeed in preventing the collision of the teeth and the bruising of his own fingers, without the assistance of another, who pulled down the chin with the palm of one hand, while with the other he held back the forehead. The pain produced by the convulsion was greater, and lasted longer; while the spontaneous convulsion recurred several times in the evenings, after each of the first trials. As leeching did not succeed in mitigating the convulsion, as on the former occasions, and as there was reason to suppose that the greater violence of the action was owing to an increase of muscular force consequent on the improvement of the patient's health and strength, I opened the temporal artery with the desired result, and with the effect, at the same time, of restoring to a considerable extent the sight of the right eye. A second detraction of blood from the temporal artery produced no farther benefit to the sight, but diminished the force of the convulsion so much as to permit the acupuncture to be practised twice a-day, without harassing the patient beyond what she was able to bear. At the end of nine days from the renewal of the operation after her return from the country, in the four last of which the needles were inserted twice a-day, the jaw had recovered its natural extent of motion, and its action differed in no respect from that of health, except that some motions seemed at times to cost the patient an effort.

Some days after the jaw had come into this state, a fit of incessant yawning, over which the will had no control, occurred, which after continuing for about an hour, without a minute's intermission, ended in a severe convulsion of the jaw, yet no loss of motion followed.

The aphonia still continued—a single smart shock of electricity, passed from side to side through the larynx, caused her

to scream for the first time for upwards of fifteen months—after which she spoke in her natural tone without difficulty.

The effect produced on her spirits by the restoration of her voice, and of the complete power over the jaw, communicated itself to the nutritive functions; so that within a short time she assumed her natural appearance, that of a very robust ruddy young woman, presenting a striking contrast to the spectre-like figure she had been three months before.

The case unfortunately does not end here; yet a less detailed statement will serve to show the course it afterwards ran. Under more favourable circumstances there is strong reason to believe that the long period required for its successful issue might have been greatly abridged.

In the country she enjoyed this restored state of health till the beginning of winter. Towards the end of November she returned to Edinburgh with her general health little impaired, but with the voice again lost, and the motion of the jaw reduced within very narrow limits. Both effects had taken place suddenly from another exposure to cold.

As the menstrual secretion, the suppression of which dated from the commencement of her illness, had never appeared, it seemed proper to direct the first remedies towards its restoration. After the trial of several emmenagogues, this secretion, in a natural condition, at last appeared in the course of the month of January, under the use of the muriate of iron and ammonia. Up to the next period her health continued good, and she began to express a wish for the renewal of the acupuncture. But before any repetition of that remedy a menorrhagia set in, which became the signal for the invasion of a host of new maladies,—such as pain of the side, frequent difficulty of breathing, an incessant nervous cough harassing the patient for hours together, and on one occasion protracted for three days in spite of every remedy that could be thought of, till at last it yielded under the use of hydrocyanic acid. To these were often added severe pain in the region of the temporal and masseter muscles, and occasionally long-continued convulsions of the jaw and other spasmodic affections.

Every attempt to restrain the menorrhagia aggravated these complaints, so that she was quickly reduced to a state of health little better than that of the previous year. The motion of the jaw during this time was not entirely lost, but was very limited.

Leeches, blistering, and detraction of blood from the temporal artery, repeatedly resorted to when the pain in the muscles became unusually severe, produced no effect on the mobility of the jaw; and though these and the other remedies suggested by the varying state of the case often gave much temporary relief to many of the symptoms, yet they produced little

permanent advantage. In summer she rallied a little; yet, under such a complication of maladies, it seemed unwarrantable to put her to the suffering necessary for the success of the needles. She was therefore advised to try the effect of country air at home, the influence of which in time might restore the balance of the functions, when the lock-jaw, if it continued, could be removed by the needles as before.

In the country she was sometimes attacked with the spontaneous convulsion of the jaw, and was liable to frequent fits of the same incessant cough, her other complaints being at times aggravated, at times mitigated. She suffered most in winter. She was under no medical treatment, except that she lost blood from the arm once on account of the pain in the side, that she constantly took aperient medicine as she had been directed, and used the hydrocyanic acid against the cough, by which it was always kept down.

This last account applies to a period of three years and a half. In the spring of 1832, her health became materially improved; by degrees the jaw relaxed, and she recovered her voice. She began to pull down the jaw soon after she went to the country, when the spontaneous convulsion occurred, by introducing the steel busk of her stays across the mouth, a practice by which it was much shortened. This and many other plans of drawing down the jaw had often been suggested to her and those about her from the first, as the convulsion in every instance in which I had an opportunity of witnessing it quickly ceased when that was done; but such was the timidity or indifference of those about her, who were all along either strangers or distant relatives, that no effectual means were ever taken for that purpose during the whole time she suffered from it in Edinburgh.

In 1833 she came to Edinburgh and called on me to show herself,—she was then in perfect health,—a robust, ruddy-looking person, and had been free from all complaint for more than a year.

23 NELSON STREET, Edinburgh,  
12th March 1845.

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## PART II.—REVIEWS.

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*Practical Observations and Suggestions in Medicine.* By MARSHALL HALL, M.D., F.R.S., &c. &c. London, 1845. Pp. 360.

THIS book is one of a class which we always welcome with pleasure. Proceeding from an author actively engaged in the duties of practice, diligently

devoted to its scientific prosecution, and enthusiastic in no common degree in its pursuit ; designedly written for a "purely useful and practical purpose," it would be strange if it were not worthy of careful and attentive perusal. Amidst many blemishes, and some of these of a character which reviewers are but little disposed to treat with leniency, it possesses strong claims on our favourable reception. Dr Marshall Hall certainly belongs to the "irritable genus" of authors, and the cause of this is evidently his own exceedingly good opinion of himself and of his contributions to medical science. The value of these would be more willingly allowed, were the author himself less forward in asserting it. There is a decided tendency in human nature to resist any claims, however well founded, proceeding from a quarter open to suspicion. These blemishes, by which most of the works of Dr Hall are disfigured, are strikingly displayed in the small volume before us.

The following passages are illustrative :—

"Diagnosis was the subject of my first medical studies, and of my first medical publication ; and I propose it, in the sense in which I have defined it above, as that of what remains to me of life. I hope, in a moderate space of time, to present to my professional brethren a new edition of my 'Principles of Diagnosis,' not unworthy of the present advanced state of our science and practice."—P. 2.

"And here, in reference to my own labours, I trust my readers will allow me to make a very few brief remarks, without imputing to me any other wish than that of doing myself an act of mere justice.

"I may truly affirm that mine has been a really active professional life. In the midst of practice and of lectures, I have allowed few days to elapse without recorded observation. This habit I regard as the *test* of a physician's steadiness and industry. But, besides this, for ten years I devoted a part of my leisure hours—often snatched from hours which should have been devoted to repose—to physiology."—Pp. 3, 4.

"But of my various labours, in the course of medical practice, I look upon my researches in regard to the use and abuse of blood-letting, of all remedial measures the most powerful for good and evil, with the greatest satisfaction.

"I think I may say, of the distinction between the cases of intestinal irritation, of the effects of loss of blood, of inflammation, and of the various mixed cases consisting of two or of all three of these, variously mingled together in the same case, pretty nearly what I have said of the rule for the due and safe administration of blood-letting,—that it is one of great practical importance, and that it has proved the means of saving many dear and valuable lives."—P. 5.

"At an early part of my medical career, I published an essay on this subject, of the practical value of which the late Dr Baillie spoke in the highest terms. I believe this testimony to have been true.

"After the rule proposed for the due administration of blood-letting, and the diagnosis established in regard to puerperal diseases, I would rank the observations I have made on that form of hydrocephaloid disease which arises from exhaustion, for their practical utility."—P. 6.

"One other service which I think I have rendered the art of medicine, in its application to infants and children, is that which relates to the treatment of infantile convulsions."—P. 7.

"But this subject I must postpone to a subsequent part of these pages ; and I conclude the present chapter by referring my readers for further in-

formation to my 'New Memoir,' which contains the latest facts and views on the subject, and by stating that I believe the results of my investigations present the *KEY to the DIAGNOSIS of the diseases of the nervous system*, and are therefore not misplaced amongst these *practical observations and suggestions*."—P. 24.

"I would refer those who wish to prosecute this subject to my work on the 'Diseases and Derangements of the Nervous System,' but especially to my 'New Memoir,' which contains the most lucid and recent view of the whole subject of the physiology and pathology of the true spinal system."—P. 33.

"The series of cases, occurring in the same family, and given in the *Lancet* for April 17, 1841, and for July 9, 1842, must have excited the deepest interest in the profession."—P. 35. &c. &c.

That these laudations are merited we have no doubt; we only think that Dr Marshall Hall should have been the last to proclaim them.

But to select blemishes is the unwelcome task of the reviewer, and we therefore gladly pass to the more agreeable duty of presenting our readers with some of the varied and useful information which the work before us contains. Its contents are exceedingly multifarious, being divided into fifty-three chapters, each of which treats of a separate subject. It is not a book for grave and severe study. It is written in a light sketchy style, but is eminently suggestive of materials for deep reflection.

CHAPTER I. is entitled *Introductory Remarks*, and gives us an account of what the author has done for medicine, from which we have already quoted some passages.

CHAPTER II., on *Homæopathy, Hydropathy, and Medical Reform*, is intended to show the absurdity of rash experimenting in medicine, and the danger of intrusting life and health to those who have not properly studied the structure and functions of the human body. The truth of the following remark must have been often verified:—

"I have always, too, observed a great tendency in most persons to magnify the supposed cures of quacks and pretenders, and to receive with lukewarmness the benefit which the regular physician may have been enabled to confer."—P. 10.

We are by no means unwilling to allow that the discovery of many medicines of acknowledged value has been due to empiricism, and therefore are far from condemning even experimental investigations into the curative actions of remedies recommended from suspicious quarters; but we confess we cannot look without suspicion on experiments where a man's self-interest is involved in the result. The proceedings of certain persons, high in official and professional station—some of them doubly responsible as the instructors of youth—who have pretended to carry on experiments on the alleged efficacy of the rival systems of quackery of the present day, have filled us with inexpressible disgust.

In the case of homæopathy, for example,—have such experimenters previously determined by rigid induction the natural progress and termination of an unchecked disease? Have they chosen as the subjects of their experiments, cases of a kind likely to be conclusive? Have they, while handling the weapons of quackery, closed their purses against its degrading bribes? Have they, in short, marked out for themselves, while treading on ground so dangerous, a path which they can follow without *temptation* to be dishonest, and which, consistently with perfect rectitude of principle, can conduct them to a satisfactory conclusion?

To those, among our young readers especially, who may have been staggered by the *ex parte* statements of those whose character as well as fortune is dependent on the spread of the system which they have embraced, or who may be seduced by the example of some of whom better things might have been hoped, and who may speak with complacency of a trebled income, as if that were a sufficient recompense for a damaged reputation, we would recommend the perusal of this chapter. We can only give one or two short extracts.

"But if we wish to ascertain the extent of the unaided power of nature in the cure of disease, let us act fairly and honestly, and try the 'médecine expectante' without attempting to lure, delude, or amuse the weak-minded patient by that absurdity, homœopathy, with its infinitely silly, infinitesimally small, doses of medicines. Or if we would really prove the effects of the internal and external use of cold water, let us not begin by hydropathic institutions, but by cautious investigations, following the example of the late Dr Currie, discreetly using this agent of power for the public good, to the honour of our profession." \* \* \* "Let us only imagine the ignorant, dishonest peasant of Gräfenberg trifling, for the sake of 'filthy lucre,' with the well-being of the credulous amongst his fellow-mortals! Is it not sickening to think that such proceedings can have met with perpetrators even amongst members of our own profession, and in this country too?"—Pp. 13, 14.

To those who may be inclined to experiment on hydropathy we recommend the following caution:—

"There is *one* aspect in which the administration of the several measures included in hydropathy should be especially viewed. They all require great powers of *reaction* in the patient. Now, if there be inflammation, and especially if there be congestion, of an internal organ or organs; if, from such or any other cause, the blood driven from the surface do not regain its former diffusive course, fatal consequences may ensue. This observation applies especially to dyspepsia, gout, and rheumatism, with their peculiar diathesis and disposition to remove and fall on the internal organs; to diseases of the *heart*, with its series of visceral congestions;\* to diseases of the lungs, the liver, and the intestines; to disease of the *kidneys*."—P. 14.

CHAPTER III. gives us a simple view of the *Physiology of the Nervous System*, and is simple and elementary in its character.

CHAPTER IV., on the *Use of the Alcoholic Lotion in Phthisis Pulmonalis*, has disappointed us very much. Loose statements of the character here made, will do more to encourage the spread of quackery than all the arguments of the preceding chapter can undo. Its object is to recommend the use of "an alcoholic lotion, made of one part of pure alcohol, mixed with three parts of water, constantly applied by means of six folds of linen over and across the upper lobes of the lungs."

The folds of linen are to be wet every five minutes, and the application should be incessant during the day and all waking hours.

Of the efficacy of this lotion our author expresses the following opinion:—

"It is by no means my wish to laud this remedy beyond its just value; but I have no hesitation in asserting that it possesses a power in checking

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\* See the Gulstonian Lectures for 1842, p. 48.

the progress of the deposition and softening of tubercle in the lungs, beyond any other which I have ever tried. And the number of patients who have recovered from incipient phthisis under its use, and who, after many years, are still living and in apparent health, induces me to express myself in strong terms in regard to its extreme value."—P. 26.

What we complain of is the loose character of the cases reported, and this more especially when Dr Hall informs us in his introduction that "I have also wished not to deter, by the form of this work, the general reader, who may be interested in medical matters generally, or in some particular medical subject."—P. 3.

The remedy is recommended for the treatment of incipient phthisis ; it is evident that the most credulous reader would scarcely believe it to be efficacious in the ulcerative stage. What the author believes the "Early Symptoms of Consumption" to be, he has sufficiently explained in Chapter XLIII. ; and yet we find at the commencement of this chapter the signs of incipient phthisis set down as "dullness of sound on percussion, and no doubtful pectoriloquy under the clavicle, hæmoptysis, and disposition to chills, heats, and early morning perspirations, &c."—P. 35.

The pectoriloquy is surely an evidence of the existence of a cavity, and is therefore a sign of advanced, not incipient phthisis ; and we should certainly consider any such remedy as that here suggested lamentably inadequate for the arrest of the ulcerative process in a tuberculated lung. It is due to Dr Hall, however, to state that he does not speak of it as a cure :—"I would also guard my readers against trusting to this remedy as a sort of cure for phthisis. I think it the most important remedy in this disease which we possess ; but I would by no means neglect any of the other well-known *aids* in the treatment of phthisis."—P. 28.

The vague nature of the statements on which Dr Hall rests the alleged curative power of his lotion are unworthy of his character as a philosophical physician. For example, "one patient, who consulted me fifteen years ago, had dullness on percussion, and pectoriloquy, and every other sign of incipient phthisis. He applied and long wore the alcoholic lotion, called it his 'breast-plate,' and is now a professor of ——— College."—P. 27.

And again, "I saw a young lady two years ago, one of a most consumptive family, affected with hæmoptysis, and with every threatening sign and symptom of incipient phthisis. I prescribed the alcoholic lotion, and the cough and hæmoptysis were removed, and every fear dispelled. It had already been proposed that this young lady should take a voyage to Madeira. She did so, continuing the lotion, and returned in apparent good health."—P. 27.

Everything, of course, in such cases as these, depends on the accuracy of the symptoms detailed ; and why is the evidence of the curative effects of the lotion made to rest on any thing so vague as "he is now a professor of ——— College," or "returned in apparent good health !" Could the same stethoscope that revealed in the one case "dullness on percussion and pectoriloquy," and in the other case "the physical signs and the usual symptoms of phthisis," not have informed us what change the alcoholic lotion had wrought within the chest ! Reports of this nature we should expect to meet with among the supporters of specifics for phthisis, and we only regret that a physician so incapable of anything of this kind should have given the slightest countenance to a class of practitioners who are the disgrace of our profession.



CHAPTER V. treats of the *Motive for the Scarification of the Gums during Dentition*. Dr Hall's views on this subject have been for a considerable time before the profession, and are, we believe, of great practical value. Few weeks pass in which we have not an opportunity of putting them to the test of experience. Believing that the irritation in teething is not the result of the pressure of the teeth on the gums alone, but arises from the "nervi-vascular" action by which the process of dentition is attended, and which in some cases acquires a morbid activity:—"But," says Dr Hall, "the focus from which the *nervous* actions emanate is, I believe, not as is generally imagined, the nerves of the mere *gums* seated over the prominent parts of the teeth, but the nerves which may be emphatically termed *the nerves of the teeth themselves*—the nerves which enter into the very fangs and substance of the teeth." To remedy this state our author recommends "frequent, often daily scarification of the gums," and the application of the gum lancet, not to the apex merely, but to the base of the gums. The chapter concludes as follows:—

"I do not pretend, in the above proposition, to have advanced any thing new; but in the *locality* chosen for the operation, and in the *promptitude, repetition, perseverance*, and in the *energy and steadiness of purpose* with which I recommend the measure to be adopted—if these be fully apprehended—I believe I do propose something *new*; and when I repeat that since I adopted the plan of *effectually* removing *all* irritation in the gums, stomach, and intestines, in cases of crowing, and other convulsions of the same nature, early enough, I have not known or seen a fatal case, I am aware that I propose a plan of treatment at once new and *invaluable*. But half measures are of no efficacy."—Pp. 33, 34.

CHAPTER VI. is devoted to *Remarks on the Nature and Treatment of the Stridulous Convulsion in Infants*. The obscurity in which the pathology of this disease is still enveloped, inclines us to welcome any addition to our knowledge of its nature. No one is better qualified to speak on this subject than Dr Hall, whose physiological discoveries seem to indicate the track by which numerous interesting points connected with it are likely to be investigated. That the disease consists essentially in spasm of the muscles of the glottis seems to be the opinion of all who have studied it. The cause of this irritation is, however, not so clear. Kopp considered it to result from enlargement of the thymus gland; but our author very properly suggests that this enlargement is more likely to be the consequence than the cause of the "violent convulsive effort observed in this terrific malady." Sir Henry Marsh is of opinion that the primary lesion exists at the origin of the pneumo-gastric nerve. Dr Hugh Ley refers its origin to paralysis of the muscles of the glottis, arising from pressure made on the recurrent nerves by enlargement of the bronchial or deep cervical lymphatic glands. Dr Cheyne believed the disease to be seated in the brain. That some of these authors have taken a too exclusive view of the subject is obvious. It is a law of the propagation of nervous influence, that any impression made on a nerve at its origin in the brain, or at any part of its course, may take effect at its peripheral extremity. The irritation of the brain alleged by Cheyne might thus produce its effect at the distribution of the nerve on the glottis; the same effect might follow irritation of the nerve at its origin without the brain as supposed by Marsh, or during its course as alleged by Ley. There are still, however, a class of causes the action of which remains unexplained. Improper food, the retention of the alvise

evacuations,\* and other sources of irritation at a distance, may prove excitants of an attack of the spasm. The manner in which these operate is only to be explained by a reference to the excito-motory system, and it is in diseases of this class that the discovery of Dr Hall displays its practical utility. The following is his view of its pathology :—

“The disposition to this disease seems to consist in a peculiar susceptibility of the excito-motor property of the spinal marrow. The immediate attacks are the result of the action of sources of irritation or excitement of this property. This susceptibility should if possible be diminished, and the causes of excitement should be most carefully avoided. These are the *two principles* which must, I believe, guide us in our treatment.”—P. 35.

The treatment recommended by Dr Hall is very much that suggested by Sir H. Marsh. All sources of irritation and excitement are to be removed, the gums freely scarified, the state of the secretions duly watched, the child also supplied with sufficient nourishment, aided in some cases by a mild vegetable or chalybeate tonic.

For the fulfilment of some of these indications the suggestions of Dr H. are of much practical value. When it occurs during the age of dentition, the gums are to be scarified as recommended in the former chapter. For securing the daily evacuation of the bowels without irritation our author recommends—

“If the secretions be wrong, a grain of calomel or blue pill should be given frequently. But large doses of calomel are, I am persuaded, injurious. They are the source of much irritation first, and of much exhaustion afterwards. The mildest effectual aperients are required. The infusion of rhubarb, with the tartrate of potass and manna, is one of these. To such a draught a few drops of the tincture of hyoscyamus, of the aromatic spirit of ammonia, and a little of the syrup of ginger, may be added. But a *most* important remedy is the enema of warm water or barley-water. To be administered in sufficient abundance, this must be given *very* slowly. It is then most effectual, *washing* out the intestine, and removing what even drastic purgatives would leave behind.”—Pp. 38, 39.

For the removal of the morbid susceptibility of the patient, the infusion of hop with tincture of henbane is recommended.

CHAPTER VII. is entitled *on the use of Setons, especially in the Treatment of Paraplegia*. The author appears to us to have completely mistaken the title of this chapter. There certainly was no need to point out the efficacy of *counter-irritation* in the treatment of the results of inflammatory action or the treatment of paraplegia, and yet this is all that this chapter does. An advocate of setons ought to have shown their superiority to other modes of counter-irritation, and yet the following sentence is the only one in which anything of the kind is attempted :—

“In this case, issues are generally inserted. They appear to me far more painful, far less manageable, and far less efficacious than ample setons.”—P. 49.

It is true that an objection is brought against issues that they are often

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\* In one very obstinate case which we saw, the attack was clearly to be traced to the child having passed ten days under homœopathic treatment, without the bowels having been relieved.

applied below the seat of the disease in paraplegia ; but setons are just as liable to be misapplied as issues.

The truth is, surgeons become attached to one particular method, and although there may be many ways of fulfilling the same end, are liable to extol the particular one which they are in the habit of using. In this case the counter-irritation effects the cure by whatever means it is produced.

CHAPTER VIII., *on Crossed Incisions in Cupping, and on Dry Cupping*, recommends these remedies ; the first as a mild means of counter-irritation, the second for its efficacy in relieving internal pains without depleting the general system.

CHAPTER IX., *on the Treatment of Lateral Curvature of the Spine*, recommends a cast to be taken of the figure, when the patient has been made artificially to assume the straight form ; on this mould metal stays are to be carefully fitted. These stays are to be put on daily, when the patient is in the recumbent posture, so that even in the erect position the bust must retain the perfect form. In addition to this, in order to restore nutrition in the atrophied muscles, what Dr Hall terms *counter-muscular effort* is to be induced. When, in a patient sitting in an erect position, pressure is made on any part of the spine, every muscle situated below the point of pressure is necessarily called into action. Taking advantage of this physiological fact, Dr Hall manipulates as follows :—

“ The patient being placed unsupported in the erect position, the hand or hands are to be passed along the muscles of the spine, pressing, at first very moderately, then more and more firmly, whilst they are carried upwards and downwards alternately, in the ordinary manner of rubbers. At every successive instant a fresh set of muscles is called into action more particularly, whilst the whole system of the spinal muscles is made to contract together, or in their turn.”—P. 58.

CHAPTER X., *on the Modes of inducing a regulated Temperature and Moisture in the Sick-room*, recommends the careful closure of every source of access to air in the room, except by an aperture above the door. Large basins of water, at a temperature of 180° of Fahrenheit, are to be so situated as to diffuse their moisture through the room.

CHAPTER XI., *on the Precautions necessary in the Treatment of Tetanus and Hydrophobia*, recommends, as essential to the treatment of these diseases, “ uniform warmth and moisture, and effectual security from shock of body or mind.” This to be attained by surrounding the patient’s bed with screens, within which jars of hot water are to be placed.

CHAPTER XII., *on the Exclusion of the Atmospheric Air in the Treatment of certain Diseases*, contains an exceedingly valuable suggestion which was much insisted on by the late Sir C. Bell, the exclusion of atmospheric air in the treatment of internal inflammations. Dr Hall is of opinion that the cure of pleuritis by cataplasms, so successful in the French hospitals, is to be explained in this way.

CHAPTER XIII., *on the Use of Enemata of Cold or Warm Water*. In this chapter the use of enemata is recommended for these distinct objects :—1st, In small quantity, as one pint, to relieve the rectum ; 2d, In larger quantity, as three pints, to wash out the colon ; 3d, To induce a flow of bile in cases of jaundice, which is to be accomplished by repeated copious enemata of warm water ; 4th, As an internal fomentation in cases of dysmenorrhœa ; 5th, In cases of intestinal load and irritation.

We question much whether the distinction drawn between the two first objects be in accordance with sound physiology.

That the rectum is occasionally filled with firm impacted fæces, causing obstinate constipation, usually attended with tenesmus and other symptoms of irritation, is undoubted. Various cases of this kind have from time to time appeared in the Medical Journals; \* but the occurrence is by no means common.

On the contrary, we think Dr O'Beirne † has succeeded in proving that the rectum seldom contains any feculent matter, and that therefore it is erroneous to consider it as being washed out by the action of the smaller injections. Dr Hall's reflex theory appears to us to afford the true solution of their action, and that the water thrown in acts as an exciter of the true spinal nerves, causing a reflex action to be communicated to the colon by which its contents are evacuated.

The syringe is however by no means an unfailing remedy in habitual constipation, and in some cases so far from bringing away bile, has appeared to have an opposite effect. In such cases minute doses of colchicum, at first in combination with blue pill and aloes, and afterwards with the omission of the blue pill, have the desired effect.

CHAPTER XIV., *on the Prevention of Milk-abscess and Milk-fever*, contains nothing new, only insisting on a truth with which every old wife is familiar, that the best way to prevent milk-abscess is to keep the milk ducts free.

CHAPTER XV., *on the Causes and Prevention of Apoplexy and Paralysis*, is full of admirable matter, of great practical utility, and suggestive of many important particulars with regard to the serious class of diseases of which it treats. We trust our author will enlarge his remarks on a subsequent occasion.

Every practitioner must have met with cases to convince him that the depleting system is not always the best for the treatment of that state predisposing to apoplexy and paralysis.

Dr Hall points out that plethora has perhaps been too much regarded as the predisponent cause of paralysis. "The real principle," he observes, "of prevention of the apoplectic or paralytic seizure, is that of inducing a state of *equilibrium*, in regard to plethora or inanition, and of *health*, in regard to the general tone, habit, and secretions.

"I have repeatedly been consulted by patients with a pallid and anæmious countenance, who have been kept in a state of constant alarm by the continual use of blood-letting, or application of leeches, whom an opposite course, especially a mild chalybeate, adopted and pursued with due caution and prudence, has rescued from this state of alarm and of danger too—for there is danger even of apoplexy and paralysis in a state of inanition—a moderate space of time.

"In other cases, a state of dyspepsia, or of cachexia, has induced similar symptoms, which have been kept up by similar means. The cure depended on the restoration, by air and exercise, early hours, and a strict regimen, and mild cold bathing, and such remedies as quinine and sarsaparilla, of the general health."—Pp. 77, 78.

\* See London Medical Observations, vol. iv. Medical Commentaries, vol. x. Northern Journal of Medicine, No. IX.

† New Views on the Process of Defecation. Dublin, 1833.

As occasional causes of the apoplectic or paralytic seizure, Dr Hall enumerates—

1st, *Plethora*, which he seems to think is certain to be present, when the patient, in addition to other symptoms of head affection, exhibits a tendency to doze, and is liable to attacks of vertigo in the stooping, or in the unusually erect position. In cases of doubt, Dr Hall insists on the propriety of testing the effects of bleeding in the erect posture.

2d, *Anæmia* temporarily relieved, subsequently aggravated by depletion, improved by quinine and iron.

3d, *Dyspepsia* and *Cachexia*. 4th, *Gout*.

Dr Hall, in conclusion, observes,—

*“Such are the predisposing CAUSES of an attack of apoplexy or paralysis; the PREVENTION must consist in removing them; and, according to circumstances, DEPLETION, IRON, SARSAPARILLA, COLCHICUM, and ANTACIDS, with the appropriate system of DIET, EXERCISES, HOURS, &c., must be prescribed and steadily administered.”—P. 86.*

We pass hurriedly over several interesting chapters. The next in order (XVI.), on the Temper Disease, contains some strange narratives of diseases feigned by nervous patients for the purpose of eliciting sympathy.

CHAPTER XVII. *Difficulties in the Study of the Nervous System, set forth by Legallois.* Clear and distinct.

CHAPTER XVIII., on the *Diagnosis in cases of Paralysis of the Face*, contains some important principles. The author's method of distinguishing between hemiplegia of the face and paralysis of the facial nerve, seems comprised in the following extract:—

“In hemiplegia, the eyelids of the affected side can always be closed, though not so firmly as those of the other side. In so severe a case of facial hemiplegia, the limbs are almost certainly paralyzed, and the tongue is generally affected, and protruded to the affected side.” \* \* \*

“A further diagnosis is afforded by ascertaining the comparative irritability of the muscles on the two sides of the face. According to a LAW formerly laid down, cerebral paralysis (hemiplegia) is attended with augmented spinal paralysis (that of the facial nerve, for example), with diminished irritability.”—P. 109.

CHAPTER XIX., on the *Irritability of the Muscles in Paralysis*, is occupied with an attempt to re-establish a doctrine long ago advanced by the authors, and lately combated by Mr Pereira, that in cerebral paralysis the irritability of the muscular fibre becomes augmented from want of the application of the stimulus of volition; while in spinal paralysis the irritability is diminished. The augmented irritability in the one case, and the diminished in the other, he ascertained by voltaic electricity.

CHAPTER XX. is occupied with a discussion of the *Disputes relative to the Functions of the Spinal Marrow*.

CHAPTER XXI. attempts to establish a more accurate diagnosis of neuritic sciatica. Dr Hall believes the unequivocal symptoms of this affection to be, in the first stage, pain in the nerve, and spasm and quivering of the muscles to which it is distributed; in the second, numbness or a sense of “pins and needles” in the outer side of the foot, and muscular debility. Dr Hall recommends a hot bath at 103°, for 15 minutes every night, with mercurial and other purgative medicines.

CHAPTERS XXII. and XXIII., on the *Circulation in the Acardiac Fetus*, are occupied with a discussion of a purely physiological character, interesting however as throwing light on some intricate questions regarding inflammation. These, however, we cannot make room for here.

CHAPTER XXIV., among some remarks on aphoria (sterility), makes the following suggestion :—

“ My suggestion then is, that when the mamma is excited at the return of the catamenial period, a robust infant be repeatedly and perseveringly applied, in the hope that the secretion of milk may be excited, and that the uterine blood may be diverted from the uterus and directed into the mammary vessels, and that a change in the uterine system and a proneness to conception may be induced.”—P. 156.

CHAPTER XXV. Under the head of *Cursory Remarks on Prognosis*, the author directs attention to a very interesting subject. Painful as it is at all times for the physician to lose his patient, even in an obviously hopeless case, perhaps the most distressing position in which he can be placed is where death suddenly occurs in a case respecting the favourable issue of which he had held out confident hopes. It is evident that nothing is more likely to inflict a serious injury on his professional reputation ; but even independently of this, it is a sufficient cause of sorrow if he shall, from carelessness, have deceived the patient and friends with false hopes, and thereby have prevented that needful preparation which all desire before a change so awfully momentous. Such mistakes may occur without the physician being at all to blame, and in diseases of which death is not a usual termination.

“ No one,” says Dr Hall, “ would prognosticate a sudden dissolution in chlorosis, however inveterate and severe. Yet I have known four examples of a sudden or rapid fatal termination in this disease.”—P. 161.

It is then of importance, if the physician would guard against errors of such serious import, that he should rightly understand, not only the usual course and terminations of disease, but also any symptoms which, occasionally preceding death in any disease, may give timely warning of its approach. This chapter is intended to direct attention to some of these.

Among the most treacherous cases, Dr Hall alludes to some where intestinal obstruction of the most obstinate kind has been overcome, and yet a state of insidious sinking sets in.

“ Food is retained ; the bowels are freely moved ; all pain is gone ; the patient, as I have said, appears better in every respect ; but, in the course of the night, or in the course of twenty-four hours, sinks and expires.”—P. 162.

Our readers will remember, in one of the interesting surgical communications on hernia recently supplied for this journal by our talented correspondent Dr Duncan, a case of this kind. We have occasionally observed, in cases apparently of simple diarrhoea, a state of sinking supervene not to be accounted for by the amount of the discharge. Dr Hall enumerates four symptoms which he has observed in connexion with this insidious sinking—1st, A little audible breathlessness ; 2d, A slight crepitus in the breathing, audible without the stethoscope ; 3d, Tympanitic tumefaction of the abdomen ; 4th, Chiefly to be observed in puerperal diseases, a peculiar severe pain in one side of the neck.

CHAPTER XXVI. contains the narrative of a case of painful subcutaneous tubercle cured by excision.

CHAPTER XXVII. the supervention of very violent symptoms from the smoking of two pipes of tobacco by a young man of nineteen, previously unaccustomed to its use. The symptoms of this case were “ Syncope, succeeded by nausea and vomiting, and subsequently by violent pain and affection of the head ; coma, and stertorous breathing, without paralysis,

and with little affection of the pulse ; the tendency to dozing, and to syncope on a change of posture, or on any exertion ; the languor of the circulation observed in the extremities ; all these circumstances, taken together, seem to characterize decidedly the effects of tobacco, and to distinguish them from any other affection."—P. 173.

CHAPTER XXVIII., *on the Effects of the Habit of giving Opiates to Infants*, gives a melancholy description of the appearance of an infant—prescribed for by Dr Hall. We give it entire, but it seems almost too horrible to be realized from the description. The child was six months old. "The countenance has a shocking disfigured appearance ; the colour is sallow ; the eyelids, especially the under ones, are swollen and red, secrete a glutinous matter, and are without lashes ; the lips, especially the upper one, are also bloated and swollen ; the integuments of the face, in general, are puffy and flabby, and are marked with deep furrows or wrinkles, especially below the under eyelid, and from the nostrils obliquely downwards and outwards. When the infant cries or laughs, the countenance assumes an aspect still more shocking, the preceding appearances being increased ; the action of the muscles is deeply marked, the integuments being partly stretched, and partly puffed up ; the whole face is at once aged, haggard, and painful to see. There is an entire want of that appearance of intelligence observed in infants in general, even of this age. It is constantly employed in sucking its thumb ; a circumstance which may contribute to aggravate the appearances described.

"The infant is thin, emaciated, sickly, and puny, and is said to be less in bulk than on the day of its birth.

"The integuments of the body are flabby, like those of the face. The skin is shrivelled."—Pp. 174, 175.

We confess that we do not believe that the appearances in question were caused by the exhibition of the opiates, and Dr Hall has not advanced a single argument to prove it. The practice he condemns is undoubtedly a sufficiently pernicious one, but is unfortunately too common among the labouring poor not to furnish many more such unhappy specimens of wrinkled humanity, were it really the cause.

The two succeeding chapters are occupied with some interesting remarks upon Phagedæna Oris.

CHAPTER XXXI. narrates a case of post-mortem perforation of the stomach and œsophagus.

In CHAPTER XXXII. a case is given, where, after fourteen different attempts at vaccination, the patient's body was covered with an eruption of horn-pox and chicken-pox, occurring simultaneously. In the same chapter a case is mentioned of scarlatina recurring immediately on the first attack having finished its course.

CHAPTER XXXIII., *on the Treatment of Chronic Bronchitis, Chronic Pneumonia*, we shall give in the Periscope of our present or next number.

CHAPTER XXXIV. contains a *Case of Feverish or Inflammatory Cold, Otitis, Brow-ague, &c.*

CHAPTER XXXV. gives an account of a *Case of Gangræna Senilis treated by the Nitrate of Silver* ; by J. Higginbottom, Esq.

The patient was seventy-three years of age, of a full habit. When seen, the third and fourth toes had assumed a dark colour, and become a little swelled ; and two small purple vesications had appeared on the lower and outer part of the leg. The patient was cured without any constitutional treatment by the local application of the solid nitrate of silver.

It is strange the amount of ignorance which still prevails with regard to the treatment of this formidable disease.

It is now many years since Dupuytren pointed out the inefficacy of sedatives, antispasmodics, tonics, and antiseptics in this disease, and, guided by a sound pathology, proposed antiphlogistic treatment. (*Leçons Orales*, iv. p. 498.)

CHAPTER XXXVI. is a sort of advertisement of a forthcoming work of the author on diagnosis "not unworthy of the present advanced state of medical science and practice."

CHAPTER XXXVII. narrates a case of prolapsus uteri cured by removing a portion of the mucous membrane, an inch and a half in breadth, from the os uteri to the os externum, and uniting the cut surfaces by ligature.

In CHAPTER XXXVIII. Dr Hall suggests, for the cure of vascular *nævus*, an operation "calculated to induce, with the deposit of lymph, the slow adhesive inflammation in parts of low irritability."

"The mode of cure to which I have alluded consists in passing a needle, of moderate size and with cutting edges, through the *nævus* so frequently as to induce the adhesive inflammation with the deposit of lymph, and so as to obliterate and consolidate the vessels of which it is composed, yet so slightly as to incur no risk of inducing sloughing. The needle must be passed in several directions, from one point in the circumference of the *nævus* to several points more or less opposite. The punctures must be made near the surface, in the superficial arterial *nævus*; but in tissues more or less deeply seated, in cases of the prominent capillary *nævus*."

"The operation must be repeated at distinct intervals of *two, three, or four months*, according to the state of the case and the progress of the cure. This is not of the slightest consequence, for the operation neither inflicts pain, nor occasions hæmorrhagy of any moment."

The object of the proposition is to avoid pain, hæmorrhage, and scar; its principles to substitute cicatrix for the *nævous* tissue.

CHAPTER XXXIX., on the *Influence of Lateral Friction on the Circulation*, should be regarded as a note to the two chapters on the circulation in the *acardiac* fetus.

CHAPTER XL., though perhaps containing nothing absolutely new, yet directs attention to some points of great practical utility. That hydrocephalus is a disease liable to attack several children in a family in succession will be readily admitted; and that it is much more easy to prevent than to cure it will not be disputed. When one or more children, then, have been attacked, it is surely of importance to place the others under such hygienic conditions as shall prevent the occurrence of the disease in them.

Dr Hall's views on the subject are expressed in letters of advice. He first desires the parents to keep in mind that they have to counteract a tuberculous diathesis, and that for this purpose every means of imparting tone and energy to the general system must be adopted. A bracing atmosphere and dry soil is recommended. An animal diet with very little vegetable food. Early hours, sponging with bay salt and water (one ounce to a pint), flannel next the skin; keeping the feet and hands warm; regular exercise, never to fatigue; copious relief in the bowels daily, avoiding mercurial purges; steel wine and sulphate of quinine thrice a-day at meals, each to be continued for a month separately; then both together for a third month, followed by a little ale on the fourth month, omitting the tonic medicines; the studies to be regular but slight, and plenty of thoroughly active occupation and amusement.



CHAPTER XLI., *on the Treatment of Sudden Affections of the Head in Children*, after alluding to those sudden attacks of formidable cerebral symptoms which occasionally occur fourteen or sixteen days after scarlatina, draws attention to attacks of a similar appearance occurring without any previous scarlatina. Dr Hall is of opinion that all the symptoms in these cases arise from congestion of the cerebral vessels. The remedy is blood-letting, carried to approaching syncope, followed by mercurial purgatives, the cold spirit lotion or cold douche being applied to the head, a blister to the nape of the neck, and fomentations and sinapisms to the feet.

CHAPTER XLII., *on the Early Symptoms of Consumption*, contains nothing that is not to be found in Sir James Clark's admirable treatise on consumption.

CHAPTER XLIII., *on Tuberculous Diseases of the Abdomen*, draws attention to a disease with the diagnostic marks of which it is of the utmost importance that the practitioner should be acquainted, as the progress is often exceedingly insidious and the termination suddenly fatal. In Dr Abercrombie's valuable work on diseases of the stomach, we find these affections alluded to under the head of ulcers of the mucous membrane without prominent symptoms. It is true indeed that Dr Hall does not give us any account of the pathology of that disease, which he names tuberculous disease of the abdomen. It may therefore consist either in the deposition of tubercular matter in the glands of the ileum, and the subsequent ulceration which their presence induces, or in the deposition of tubercles in the serous membrane, and the subsequent occurrence of chronic peritonitis. The first class of cases occur occasionally during the progress of fever. Of these M. Louis has published several (*Edinburgh Med. Journ.* 1824). One of these cases is related by Dr Abercrombie,—a girl of fourteen, who after a week's fever was seized with pain of the abdomen, quickness of the pulse, sinking, and death. On dissection, ulceration of the ileum was detected. The same author also narrates the case of a gentleman, aged thirty-four, who was observed to look ill, and lose flesh for several months without any defined complaint. He was then seized with vomiting and heat in the stomach, convulsive affections, and delirium, and died comatose. On dissection, ulceration of the ileum was detected.

If we turn again to insidious cases of chronic peritonitis, we find the symptoms equally obscure. Loss of flesh and strength, with listlessness and impaired appetite, without any well-marked abdominal symptoms, chiefly characterize them. Cases of this kind must have occurred to most practitioners, and examples of them will be found recorded in the works of Andral, Bright, and Abercrombie. There is a want of specific information as to the pathology of the disease in this chapter of Dr Hall's. Indeed, throughout the book we have to complain of a too great love for generalities. He believes the age at which the disease usually occurs to be from fifteen to twenty-five, and to be characterized by three symptoms:—1. Great tendency to coldness and lividity of the extreme parts of the body; 2. Frequent pulse; and, 3. Slow but progressive emaciation.

"The other symptoms of this morbid affection are less constant; they are chiefly—an augmented appetite for food; copious pale alvine evacuations; and pain, and sometimes a perceptible tumour, in some part of the abdomen, especially in the iliac or hypogastric regions. The catamenia simply become scanty, or cease, without undergoing the changes observed

in some cases of disorder of the general health. There are altogether a peculiar appearance of the countenance, a peculiar mode of walking, and a peculiar attitude and manner in general, all denoting debility and great disease."—P. 266.

Dr Hall gives three cases of the disease. In one an inspection took place. The morbid appearances are not detailed in a very methodical, accurate way, but there was ulceration of the mucous membrane, tubercles in the peritoneum, and the usual consequences of these, comprehending the results of chronic peritonitis.

The next chapter details a case of recovery from apparently hopeless abdominal disease in a child.

The next three chapters are reprints from Dr Hall's medical essays published in 1825. They treat of, 1st—Intestinal irritation; 2d, Exhaustion from loss of blood; and, 3d, On the state of sinking. Dr Hall's views on these subjects have been long before the profession, and their importance and value justly acknowledged; but we are not sure how far he is justified, on this account, in swelling out the present volume by their insertion. It would be an amusing task to trace Dr Hall's career as an author, from the publication of his first work on diagnosis down to his present "Observations on Medicine," and show how often he repeats himself. It is said that the highest honour you can confer on an author is to quote him, but we are not sure whether the compliment is applicable when an author quotes himself. Dr Marshall Hall is one of the few authors whom Dr Marshall Hall condescends to quote.

CHAPTER XLVIII., on *Gout, especially of the Internal Organs*, is chiefly occupied by the narrative of a case of retrocedent gout recorded by Dr Haygarth, and reprinted from the fourth volume of the transactions of the Royal College of Physicians. The gist of the chapter is to be found in the following quotation:—

"There is a class of diseases which is usually denominated *symptomatic*. There is a class of diseases extremely liable to be linked with *complications*. Of the former, urticaria, furunculus, erysipelas, vertigo, palpitation, asthma, are examples. Of the former, dyspepsia, and every form of derangement of the chylopoetic viscera. These two classes are obviously *one and the same*; and it is still required to pursue the interesting inquiry into this question to its full extent. Are they not, in effect, cases of a peculiar *reflex* action! To this class of maladies I believe arthritis to belong. The very essence of this disease is—that it consists of a *local* affection connected with a *general disorder of the system*, and especially of the *chylopoetic viscera*."—P. 337.

CHAPTER XLIX. details a case of chronic laryngitis where laryngotomy was performed to save the patient from impending suffocation, and afford time for the removal of the disease, by inducing the specific action of mercury.

CHAPTER L. points out a new source of diagnosis in laryngitis.

"The effort to 'snuff up,' in laryngitis, has the most peculiar effect. Instead of the *expected* noise in the nostril, there is an *unexpected* sound in the larynx.

"But not only is the *fact* of diminution of the laryngeal orifice ascertained in this manner, but the *degree* of that diminution is marked by the greater or less *degree* in which the power of 'snuffing up' exists, and therefore the greater or less *degree* of urgency of the case! In the same manner, the diminution or augmentation of the disease is accurately marked."—P. 349.

CHAPTER LI., on the Treatment of the Atrophy of Paralytic Limbs, by William Frederick Barlow, Esq., will be found in the Periscope of the present or next number.

The remaining chapters are occupied by two very admirable papers on the Relation of the Spinal Marrow to Parturition, by W. Tyler Smith, M. B. We have so far exceeded our limits in the consideration of Dr Hall's own contributions, that we cannot afford room even for a slight sketch of the contents of these.

The highly practical character of these observations has led us to depart from the usual practice of this journal, and present our readers with an analysis rather than a critical examination of its contents. If we have seemed to reflect a little too severely on the errors of the author, it has been just because we are very sensible how much modern medicine stands indebted to him for improvement. Where there is little to praise, we have not the heart to condemn even glaring faults; but where there is much that is valuable, even trifling errors become apparent. There is no part of the book which has given us more satisfaction than that in which the author announces his intention of continuing his observations from time to time. The fulfilment of this intention depends, we are informed, on the success of the present attempt; and we feel very sure that although it may contain no very brilliant discoveries to give eclat to its appearance, and no very recondite researches to make us wonder at the laboriousness of its author, it yet affords us the fruits of the mental energy of an observer who is any thing but content to follow the beaten path where more successful roads lie open before him. It is not a work of speculative dreamy philosophy, but of sound practical common sense, and as such will recommend itself to the judicious practitioner.

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## PART III.—PERISCOPE.

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### CHEMISTRY.

*The Chemistry of Vegetable and Animal Physiology.* By Dr G. J. MULDER, Professor of Chemistry in the University of Utrecht. Translated from the Dutch by Dr P. F. H. FROMBERG, First Assistant in the Laboratory of the Agricultural Chemistry Association of Scotland. With an Introduction and Notes, by JAMES F. W. JOHNSTON, F.R.S.S. L. and E. Part I. Edinburgh, 1845. 8vo, pp. 184.

#### *Catalysis: Molecules in Motion.*

ON the subject of catalysis, a term which already belongs to physiology, we cite two passages from Mülder's work on the Chemistry of Vegetable and Animal Physiology, a translation of the first part of which has just appeared by Dr Fromberg of the Laboratory of the Agricultural Chemistry Association of Scotland. Our readers will remember that Mülder is the discoverer of proteine, or of the identity of fibrine, albumine, caseine, &c., in both organized kingdoms, as far as respects their organic elements, and that, while he is a fellow-labourer with Liebig in the great field of chemical physiology, his original discoveries already threaten to dispute the palm of superiority in that department with the distinguished chemist of Giessen.

"Berzelius has directed our attention to a power which some substances possess of exciting chemical action by their presence, though they them-

selves are exempt from the effects of such action. This power he calls catalysis.\* It is distinguished from ordinary chemical force, in so far as the latter, while it is exerted by one substance upon another, yet generally reacts upon both. If sulphuric acid acts upon soda, an action is affected by both, which reacts upon both. If oxygen come in contact with phosphorus, at an elevated temperature, then they are mutually combined. Though the action might have proceeded from the oxygen to the phosphorus, the oxygen nevertheless is drawn within the circle of action.

"The effect of catalysing substances is entirely different. Spongy platinum condenses hydrogen; and so soon as oxygen comes in contact with it, water is produced, while the spongy platinum undergoes no change. Hundreds of pounds of hydrogen and oxygen may be combined together by means of a small piece of spongy platinum. Thus the platinum produces a force, which influences at once the hydrogen and the oxygen, and causes an action, from which the platinum itself is exempted. Such is the force which Berzelius calls *catalysis*. \* \* \*

"Founding on these considerations, Liebig has been led to reject catalysis entirely,† and to give a totally different explanation of the facts. He has assumed, that chemical forces are in action in those substances, which, according to the supposition of Berzelius, are sufficiently capable of exciting action, though without taking part in that action; and he thinks, that by such chemical action, another may be excited in other substances. He adopts the principle, indicated by Laplace and Berthollet, that a molecule, being put in motion, can communicate its motion to others, if in contact with them. He applies this principle to yeast especially. The opinion of Berzelius is, that sugar is changed into carbonic acid and alcohol by this substance, just in the same manner as alcohol is changed into ether and water by sulphuric acid, and as water is produced from hydrogen and oxygen by platinum. Liebig, however, assumes that yeast is continually in a state of decomposition; that it thus undergoes a change in its own elements, and that, if put in contact with sugar and water, it disturbs the chemical forces by which the elements of sugar are combined together, and so produces alcohol and carbonic acid;—this disturbance being caused by the change in the elements of the yeast, which follows the disturbance of its chemical equilibrium.

"Though it seems to be proved that yeast is really changed during the alcoholic fermentation, and cannot therefore be said to act by catalysis, yet this series of chemical phenomena is not reducible to any class of ordinary phenomena, and we are consequently obliged to assume three different forms of chemical action.

"1st, That which is effected by a substance, without any reaction, but which is transferred to other substances (*catalysis*).

"2d, That which is effected by certain substances and transferred to others; the primary substances being at the same time decomposed, though they do not communicate any of their elements to the new products (*fermentation*).

"3d, That which is effected by certain bodies, but which produces a complete reaction upon the bodies themselves, so that common products result from both the active or influencing substances and those which are acted upon (*ordinary chemical action*).

\* Jahrbuch für 1836, von Schumacher, p. 88.

† Chimie Organique. Introduction.

## PATHOLOGY AND PRACTICE OF MEDICINE.

*Pyromania—Heroic Remedies in Insanity.*

WE received a short time since the Fifth Annual Report of the Crichton Royal Institution for Lunatics, Dumfries; and, more recently, the Annual Report of the Royal Edinburgh Asylum for the year 1844; two documents of high interest, and most creditable to the talents of the respective superintendents of these institutions. From the first we extract a notice of Pyromania; from the other some judicious observations on the hurtfulness of over-active treatment in the insane.

"*Pyromania*.—A more rare variety of alienation is Pyromania, or the tendency to incendiarism. It seems a modification of the blind impulse to destroy. While traceable to perversion of the will and sentiments, it may be provoked by malice, revenge, or other motives common to the vicious and unsound mind. A very large number of the cases which have been most carefully examined have occurred in mere children, or extremely young females, who, when able to explain their conduct, have assigned no more intelligible reason than a desire to witness a conflagration. The disease is occasionally epidemic or imitative, affects various individuals unconnected by consanguinity or intercourse in succession, and spreads desolation and terror over a whole country. This should be kept in view when such acts are investigated judicially, for madmen may be mingled with anarchists; or the act of the malicious or rebellious incendiary may have suggested a similar course to the excited imagination or distempered propensities of the pyromaniac. At precisely the same time in 1830, when such devastation was committed in England by rick-burners, bands of young women perpetrated similar ravages in France without apparent object or design. They were regarded and treated, and perhaps wisely, as lunatics. The involuntary propensity to burn is generally associated with bodily disturbance, an undeveloped constitution, and mental imbecility, but it is not necessarily so. It may likewise be the element of a mind combining strong intellect, serenity, and self-control. It has occasionally been developed as the last atrocity of despotism, or the wildest erraticism of genius. If combined with the monomania of pride and superstition, the patient burns a palace or a cathedral; if with the tendency to suicide, he casts himself into the fire; if goaded by imaginary insults or injuries, the property of an enemy is selected; but if the desire be blind, insensate, impetuous, the destruction is indiscriminate. Persons labouring under the impulse not merely disregard life, they act as if it were invulnerable, and caress the flame they have produced, and almost invariably and anxiously watch its progress. One of this class, who was not a suicide, has been observed to handle ignited coals as if they were harmless, and, after setting fire to a sofa, sit quietly down upon the burning cloth as if to court immolation. Another inmate, who originally manifested her derangement by attempting to destroy farm produce, still, upon all favourable occasions, consigns her dress to the fire, without regard to the value of the article or to her own comfort, and obviously derives intense gratification from the brilliant flame which she has produced. This woman, although passionate, and so irrational as to recognise in her fellow-patients former friends and acquaintances, disguised as females, is acute, cunning, and perfectly conscious of the culpable and dangerous nature of her irresistible propensities."

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"It is scarcely necessary to say that insanity is a bodily disease affecting the brain, the organ of the mind. To this organ attention is first directed,

and the same principles applied to its treatment as to other organs of the body when diseased. In this, as all other cases, the earlier the appropriate remedies are used the greater is their success—an axiom which it might be thought unnecessary to state were it not often practically forgotten. The affection of the brain is, however, often secondary to derangement of other organs or functions, and the removal of such complications becomes one of the clearest indications in the medical treatment of the insane. Success does not always immediately follow any means adopted; for insanity is by far most frequently a chronic malady, and *time* itself, with that abstraction from exciting causes which an asylum secures, becomes a most important element in the cure. Even in its most violent forms the cerebral disorder is rarely to be cut short in its course by heroic remedies. In the case of some patients I have had reason to regret that the treatment before admission had been only too vigorous; and that while venesection had been prudently avoided, and the abstraction of blood from the head only cautiously had recourse to, antimonials and purgatives had been administered with no sparing hand, and the diet kept at too low a standard. All observation shows, that, in a large proportion of the insane, the constitution has been originally weak; and that where it has been otherwise, the disease has the effect of weakening and depressing it. This remark applies particularly to the insane poor, for whom remedies of a tonic nature are most frequently attended with beneficial effects; and the exhibition of wine itself is often found to allay, rather than to increase, excitement. Hygienic means in their case become more important than medical, and abundant and nutritious food, warm clothing, good air, and exercise kept within the bounds of fatigue, might almost replace the pharmacopœia. The most certain result of active treatment, long continued, is prematurely to induce dementia.

#### MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

*Anterior Obliquity of the Uterus.* By Dr PELLEGRINI.

ACCORDING to Baudelocque, Velpeau, and others, anterior obliquity of the uterus never presents any obstacle to parturition, and is easily remedied. Baudelocque indeed affirms that the greatest inclination of this kind does not derange the mechanism of parturition, and that he has assisted at many labours which were concluded with facility where the uterus was inclined so strongly forwards that the abdomen fell like a sack on the knees. In October 1840 Dr Pellegrini was called to a woman who had been in labour for twelve hours—she was æt. forty; had already borne four children, and for upwards of a year had been subject to gout. The abdomen formed a great sack, which hung down upon the thighs; and although the woman was in the horizontal position, the fundus of the uterus touched the knees. The woman informed Dr P. that her abdomen had commenced to fall down in the fourth month, but that the circumstance caused her no alarm, for the same thing had occurred in her previous pregnancies without any bad effects. On the present occasion the midwife who had been with her had in vain attempted to replace the uterus; the contractions were strong, and directed from below upward; the membranes had been ruptured several hours. On vaginal examination the head was found presenting at the brim; the uterine orifice was widely dilated, directed to the vertebral column, and the posterior surface of the uterus had become the anterior. It was, of course, impossible for parturition to go on in this way, all

endeavours to raise the uterus were unsuccessful, and when these attempts were prolonged the patient was seized with convulsions. Dr P. then thought proper to attempt turning: in this he succeeded, but the fœtus was dead, and the mother died four days afterwards of *metro-peritonitis*. Not even when the fœtus was extracted could the uterus be replaced, for a large mass of intestines immediately descended on the organ and kept it still lying on the anterior surface of the thighs.—*Annali Universali di Med.*, Giugno, 1840.

Another case, very similar to that above recorded, is related by Dr Bresciani de Borsa in the December number of the same journal. It was complicated with malformation of the spine and pelvis, the latter being so deformed, that the diameter of the outlet was less than two inches. The uterus was strongly inclined forwards and to the right, so that the organ lay on the bed, its fundus being turned over the crest of the right ilium like the bowl of a retort. The author at once decided that the patient could not be delivered without artificial aid, and that neither the forceps, the perforator, nor the Cigaultean operation would be sufficient; he therefore determined to perform the Cæsarian section. Here other difficulties arose owing to the abnormal position of the uterus. If the modes recommended by Baudelocque and Mauriceau had been pursued, the wound in the parietes of the abdomen would not have corresponded with the body of the uterus at all. If the method of Lauerjat had been followed, the incision would have opened into the uterus near the vagina, and would have endangered important vessels. Neither could the abdominal parietes be divided on the left side, for the uterus was strongly inclined to the right. Dr B. then incised the integuments of the abdomen in the line of the right epigastric artery, and from this point onward concluded the operation in the usual manner. The woman made a complete recovery; it was her first labour, but the narrator does not tell whether the fœtus was alive or dead.

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*Case of Twins, the Second born Seven Days after the First.*

A WOMAN, æt. thirty-five, produced a diminutive but fully developed male child, a few days before the completion of the full term of pregnancy. After the birth of this one, the midwife in attendance discovered a second presenting in a cross position; uterine contractions entirely subsided; during the two or three following days, the patient suffered slightly from excitement of the nervous system; nothing of consequence, however, occurred until the seventh day, when labour again came on, the left arm presented, and this second child was extracted by turning; it was larger and stronger than the first, and the placenta of both formed one mass. The patient had a pretty smart attack of puerperal fever; but on the fifteenth day after her second confinement was completely recovered. A case somewhat similar is recorded in a recent newspaper, as follows:—On the 17th February, Mrs —, living in Canterbury, gave birth to a son; and two days after to a second. Both the mother and children are doing well.

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FORENSIC MEDICINE AND MEDICAL POLICE.

THE *Annales d'Hygiène* for January 1845, contain a reply by M. Devergie to the statements contained in the memoir of MM. Danger and Flandin, read to the Academy in July 1843, in which they affirm that copper and lead do not exist naturally in the human body. M. D. details his method

of analysis, which is as follows:—"After having dried the animal matters in a porcelain capsule, they are carbonized by fire. The charcoal mass is then calcined in a porcelain crucible at a red-heat, and, during this part of the process, it is frequently washed with distilled water in order to effect a complete incineration. The ashes are first washed with water, and then afterwards with muriatic acid. The greater part of the acid is evaporated, and the remainder diluted with water. A stream of hydrosulphuric acid gas is then passed through the mixture, which ought to be slightly acid, and the precipitates allowed to fall; they are collected and treated with a few drops of muriatic or nitro-muriatic acid; on the addition of these acids a deposit of sulphur takes place, the lead and copper are separated by filtering and evaporating the fluid in order to drive off the excess of acid, then taking up the lead with water, from which it is precipitated by sulphuric acid. When all the lead is precipitated, the presence of copper may be demonstrated, either by the immersion of a steel needle, or the sulphuret may be obtained and reduced." The method employed by MM. Danger and Flandin is founded on the carbonization of the matters by sulphuric acid. It is clear that this process must confine itself to destroying the organic matter, and act but imperfectly on the salts therein contained; and hence, no doubt, the source of error in the analysis of MM. D. and F.

M. Devergie accordingly still maintains the five following conclusions:—*1st*, The stomach, the intestines, and all the organs of the economy, furnish, on analysis, traces of copper and lead. *2d*, The proportion in which these metals are found increases with the age of the party. In the child at birth the quantity is very trifling. *3d*, A prolonged disease, in which the alimentation of the individual is much diminished, appears to cause a remarkable decrease in the quantity of copper and lead found in the organs. *4th*, The last-mentioned fact supports the idea that these metals are introduced into the body through the articles taken as food. *5th*, The quantity of copper obtained is always larger than the quantity of lead.

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#### *Poisoning with Carbonate of Lead.*

CASPER'S *Wochenschrift*, No. 36, for 1844, contains an instance in which a strong robust man swallowed, by mistake for chalk, between five and six drachms of carbonate of lead. It produced all the symptoms of irritant poisoning; yet, although he was not seen for twenty-four hours after the administration of the poison, he perfectly recovered in the course of a short time under very simple treatment. It was probable that before he had been seen by a medical attendant, the greater part of the carbonate had been ejected from the stomach by the violent vomiting which supervened on its exhibition.

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## PART IV.—MEDICAL MEMORANDA.

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### *The Changes made on the Medical Reform Bill on its Reintroduction, 25th February 1845.*

IN the fewest words possible we shall indicate the state of the Medical Reform Bill on its reintroduction in the present Session of Parliament, as compared with that of which we gave a verbatim copy in our September number.



In the preamble a few unimportant words are omitted. Of the acts repealed in the first clauses of the former bill three are now omitted, namely, the act of 14th and 15th Henry VIII., "Privileges and Authority of Physicians in London," of 10th George I., "For the better Viewing, &c. Drugs, Medicines, Waters, &c.," and of 53d George III., the too well known Apothecaries' Act; but the first and last of these are repealed to some extent farther on in the new bill. There is also omitted the end of the first paragraph of the former bill, declaring the repeal of all other charters and acts imposing restriction on the practice of medicine.

All the clauses respecting the constitution of the "Council of Health," and the enactment of a Register, are retained with hardly a verbal alteration, except that any member of the council is made eligible to the office of vice-president, or that office is not confined, as before, to members appointed by the Crown.

There are no material alterations on the qualifications to be required in future from those seeking to register, except that surgeons must pass the examination required of licentiates in medicine and surgery, besides the proper examination in surgery, and that three years' university attendance are expressly required of those who present foreign degrees as a ground of registration as physician. A particular clause makes provision for the registration of those who have qualified specially in midwifery. The clause which permitted the same person to register both as a physician and surgeon is now omitted. And a new clause regulates the choice of the examiners of the London Apothecaries' Company.

The clause respecting the liberty of registered persons to practise all over the United Kingdom provides that the colleges shall keep the fees for examination, and the fees for admission as associates or fellows, distinct. And a new clause declares that licentiates in medicine and surgery shall be admitted members or licentiates of the Royal College of Surgeons in each division of the kingdom, on payment of the usual fees, and complying with the usual conditions.

In the clause respecting university attendance, attendance on the university courses during the two years next preceding graduation is altered to two years after matriculation; and reference to the London University is made, and the schools in connexion with it, under the like regulation.

In the clause respecting the registration of students, some slight alterations are introduced, and the former fee of 10s. is made an annual payment not exceeding 2s. 6d.

The clause respecting the constitution of the examining bodies, that securing efficiency of examination, and that declaring the rights and privileges of persons registered, remain unaltered.

A new clause declares that registered physicians may practise all over the empire, notwithstanding any existing act or charter to the contrary. Another new clause gives to registered licentiates the title to demand reasonable fees, and exempts them from the operation of the Apothecaries' Act and other restrictive acts.

The clause respecting the registration of persons now practising is in some respects altered—it is made to apply to all entitled to practise at the end of this session of Parliament; the registration fee is reduced, in the case of physicians and surgeons, to 20s., remaining at 5s. in all other cases; and by the introduction of the expression "entitled to practise in any part of the United Kingdom," along with "legally practising," the difficulty, as respects Scotch and Irish diplomas in England, is removed.

In the penal clauses, more particular provision is made against the assumption of professional names. A new clause gives power to the council to strike any one off the register for felony or fraud. And finally, a clause reserves entire the present privileges of the Universities of Oxford and Cambridge; while, on the contrary, the name of the Faculty of Physicians and Surgeons of Glasgow is omitted wherever it occurred in the former bill.

\* \* We are compelled, by the unexpected length of some of the previous articles, to postpone the proceedings of the Medico-Chirurgical Society, and some interesting matter besides which we had intended for this Number.

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No. XIII.—MAY 1845.

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PART I.—ORIGINAL ARTICLES.

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*Account of the alleged Art of Reading the Characters of Individuals in their Handwriting, showing the Physiological Grounds of that kind of Chiromancy; with Fac-simile Illustrations from the Autographs of well-known Persons.*

To say that the character, mental or moral, may be read in the handwriting, sounds at first like some new mesmeric outrage on common sense. And, in truth, whoever sets up for an infallible judge of the course of another's conduct in given circumstances, from no better criterion than the inspection of that other's handwriting, is much akin to an impostor. Yet the turn of a man's handwriting does give a certain insight into his thoughts. When he takes a pen between his fingers, the movements necessary to produce the signs representing his ideas vary with nearly as much latitude, compared with the corresponding movements in other persons, as his style of speaking differs from theirs in expressing the same general sentiment. Writing is, in short, a muscular act, or a series of acts, involving a number of complexly combined voluntary movements; and every such act takes to itself a character peculiar to the individual. There are many other bodily acts of a muscular kind of a completely parallel nature—speaking, singing, laughing, walking, dancing, skating; and it needs no proof that every individual speaks, sings, laughs, walks, dances, and skates, in a mode peculiar to himself, even in doing the same parts in these several acquirements. Can the character, then, be read in any of these several acts as surely as in the kindred operation of writing? In these the principle of variation is the same; yet the working of it mocks our utmost efforts of attention. On the handwriting we can pore at leisure; and in this respect there is an unequalled advantage over other muscular acts; inasmuch as the whole effect of each act trans-

fers itself to the paper, and stands for years or ages, challenging comparison with the performances of the rest of men in the same accomplishment.

But if, as is unquestionably true, no two persons ever wrote exactly the same hand, even since the invention of letters, and though it be allowed that the cause of the difference is less in the mechanical form of the organs concerned than in the peculiarity of each person's mental constitution, how, it will naturally be asked, should the handwriting lead to the perception of character, since the former depends on the latter—which, by supposition, is not yet known? The answer to this question points to the narrow limits within which character can be predicted from the handwriting, even were the art already carried to its utmost possible degree of perfection. Though every person has a handwriting peculiar to himself, it never can indicate the peculiarities of his individual character. All that is true is, that on the inspection of a number of specimens of handwriting, these, in virtue of certain resemblances and differences, not of a particular but of a general kind, can be thrown into a few groups, and that certain general, not particular tendencies of thought and action, in the individuals concerned, are observed to correspond to each group with some degree of constancy. But these groups, even in the experience of those who pay much attention to the art, are far from numerous, and therefore all that can be learned from the most expert practitioner in this mystery is, that a person has certain general intellectual and moral tendencies, in common with a large fraction, rather than certain other such tendencies which belong more to a somewhat larger fraction of the human species. All that is told of him besides is made up of generals, cunningly passed off for particulars. Moreover, the handwriting of two persons may have that resemblance which brings each into the same group, without any agreement in the most essential points of their character. And, again, two people may be alike cruel, alike benevolent, alike generous, alike avaricious, without any discoverable resemblance between their respective modes of writing. And this arises not so much because the manner of writing bears the stamp of intellectual and not of moral differences, but because the variations of hand coincide less with broad distinctions among the great springs of human action, than with the mere turn and air with which the thoughts and feelings, whatever these may be in kind, betray themselves to the world. Thus, as the particular symbols of written language are the same, whether the sentiments conveyed by them be praiseworthy or vicious, so the style of these symbols, in the handwriting of an individual, indicates not the good or evil tendency of his thoughts, but only the fashion after which those of either kind arise and become manifested.

There is a general resemblance in the manner of writing among those persons whose thoughts and feelings are more orderly and regulated in their trains and successions. Again, there is a discoverable resemblance in the kind of writing of those whose trains of thought and feeling are of a more rambling description, broken in upon by every accidental occurrence, and preserving no order unless when regard is had to some immediate important end. The handwriting which belongs to the former may be described as rather small, uniform, somewhat constrained, or with little openness or freedom. Of this kind of hand, Nos. 10, 13, are examples. The kind of hand opposite to this is larger, more free, and open, sometimes degenerating into a very irregular straggling hand. Nos. 8, 9, 17, 3, are examples.

But in the study of handwriting, when our intention is to read in it the character of the individual, there are many precautions to be used, and many deductions to be made. First of all, the general turn of the handwriting varies in different ages, and therefore we should exclude those belonging to other centuries than our own, or at all events compare those of distant times only with those belonging to the same period. Then there are many hands which have never become formed, or which have remained in a kind of half-developed or abortive state, from want of sufficient instruction or of the requisite attention. These should be excluded at least in our first attempts to judge of character by this criterion. Then there are business hands,—the hands of men whose occupation it is to write daily, and at all times in their best manner. Such hands have so much of general resemblance as very much at least to obscure the indications of variety in the character of the writers. Then there are hands acquired by imitation, and modes of writing which, like the “Galloppe” or the “Polka,” become the rage for a season;—in these all individual character is swallowed up. Of this kind is the hand at present in vogue with ladies. Thus, the fac-simile of Miss Foote’s hand, No. 15, might pass for the writing of half the young ladies in the empire. Between Miss Foote’s hand and that of Miss Stephens, No. 16, there is a great contrast, the latter being full of individual character.

But we hear the reader saying, if so many deductions be made, there will be no hands left to exercise the art upon. By a determined votary of this mystery, even these excepted cases may be turned to good account. Thus it is a material point in one’s character to have had little or indifferent instruction and yet to write well; or to have had the usual amount and kind of instruction and never to get beyond an unformed journeyman hand; or to have had daily practice in matters of business, and yet to have retained much of individual char-

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acter in the hand; or for a young lady to have been much exposed to the temptation of an imitative kind of writing, or to have been taught by a fashionable writing-master, and yet to have preserved the individuality of her handwriting. We had marked an example of a young lady's hand, who beyond all doubt has successfully resisted the fashionable female style of writing, but unfortunately it has been omitted. It is of common remark that originality of character is more and more rarely encountered in a refined age, and in refined circles of society; and the unequivocal decline of marked originality of handwriting, especially in the female world, falls under the same rule. One thing the female world cannot throw off, and that is the marked peculiarity in the handwriting of their whole body, as compared with that of the other sex. As refinement advances, this peculiarity in female hands seems to become more and more apparent. Yet it has prevailed from the first; and most likely this striking distinction between the male and female mode of writing was what originally suggested the idea of judging of characters from the handwriting.

It may be observed further, where there is a strong original bias of character, that the handwriting, which in early life had acquired a common style from habits of business, imitation, or the influence of fashion, tends, as life advances, to lose such a common form, and to assume that turn which indicates peculiarity of mental character. Thus the retaining of any such general style of writing to the middle period of life, when the circumstances which at first formed it have ceased or declined in force, must be regarded as a separate source of knowledge of the individual's character.

But the reader, we have no doubt, is by this time importunate for a first practical lesson in the reading of the character of his friends from their handwriting. While we repeat, then, that the varieties observable in the handwriting of individuals are in a great measure dependent on differences in their mental character, we must confess that the mystery of pronouncing authoritatively on the prominent points of a person's character from his handwriting is a pseudo-art—an art which cannot be exercised successfully without assuming a good deal of assurance, and having obtained some skill in penetrating the present thoughts of others. We doubt if it can be applied to much useful purpose. It might, indeed, be employed sometimes by the medical man to assist him in the diagnosis of diseases—that is, by comparing the patient's natural hand with its changed state under disease. How far this might be carried, we are not prepared to pronounce; but we have been struck with the change on the mode of writing produced by insanity, and also by the uniformity of the change in the hypochondriac state.

But little useful as this art may be in general, it may prove

a source of harmless amusement, and of some incidental instruction ; and one important advantage at least can be pointed out as attendant on the exercise of it, namely, the convincing men how easy it is, when the slenderest clue is obtained, for a pretender to make people believe that a great deal is known of their thoughts and character, when in truth his knowledge amounts to little more, beyond what they themselves inadvertently disclose to him, than that they have, in common with a large proportion of the human family, a small excess of certain modes of thinking and acting, which, in a somewhat less degree, are not unfamiliar to the whole race. The facility here referred to, on the part of many persons, to yield up their confidence the moment some small coincidence appears between the would-be-seer's words and the supposed thoughts, inclinations, or habits of the person whose character is under examination, is equally the foundation of the old popular faith in palmistry and other kinds of fortune-telling, and of the modern belief in phrenology, mesmerism, phrenomesmerism, and other like delusions ; and if the exercise of the harmless mystery of deciphering some points of character from handwriting can serve to awaken the public to the delusive arts so often practised on them, the encouragement of its cultivation might prove a general benefit.

With the few precepts about to be laid down, let any person try his hand at deciphering characters and complexions from styles of writing, and he will be surprised at his own success in the estimation of his auditors, at the amount of assistance which they afford him spontaneously, and at the little skill required to make them part with any secret which it is for his purpose to possess.

Thus, though a person may begin his scrutiny with the purest honesty of purpose, as a mere trial of the pretensions of the art, when he finds men so willing to be deceived, he cannot help taking advantage of their facility, and making their own inadvertent confessions subservient to eking out the slender information furnished by his own ostensible oracle.

The physiology of handwriting lies in its connexion with Temperament. But as the subject of temperament is rather intricate and unsettled, a few general remarks, in the first place, will be appropriate. The disclosure of the complexion—the colour of the hair and eyes—the age—the degree of stoutness or slenderness—and the general form of the person, and the like, should be made a preliminary condition ; though, if it be felt that any part of these particulars can be pronounced on from the handwriting, as is often possible for one who has made temperament his study, an impression is thereby made in the highest degree favourable to further success.

When the hand is small, close, without freedom or fluency, the hair and eyes are almost always black, or very dark, the

complexion pale or cream-coloured, or if the hair be lighter, the person is spare and dry, the complexion brown or sallow, free from colour. In Nos. 23, 10, 13, there are examples of the kind of hand common in spare black-haired persons, and in the dry brown-coloured temperament. Not unfrequently very black-haired persons write a different kind of hand, in which case they are commonly florid, or at least of fuller habit. But we must be prepared for exceptions ;—in the fac-simile of Sir Walter Scott's autograph there is almost an exception, for, notwithstanding his fair complexion, it approaches closely to the hand of the dark-haired. In his case, the small and confined turn of the hand may have been the result of that delicacy of health under which he suffered in early life. This is a kind of case in which an error cannot be avoided without precaution. But the adept is ever on his guard, and strives to shun such errors by making cautious approaches by means of indirect questions, and his wariness is commonly rewarded by the timely disclosure of the hazard to which his art would have been exposed by a too rash application of its rules.

When the hand is large, free, and flowing, or large, straggling, and irregular, it may be generally pronounced that of a fair-haired person. Such a hand as is figured in No. 17 could not possibly be that of a dark-complexioned person; for even if the hair were dark, he would show in other respects the marks proper to the fair-haired constitution.

The two opposite kinds of handwriting just referred to belong to different kinds of temperament, for these opposite complexions mark different temperaments. And as certain mental characteristics, not indeed of a particular but of a general kind, on physiological grounds, can be assigned to the several temperaments, a foundation is thus obtained for the discovery of some points in the mental habits of the individuals under examination, which, with a little skill, may be dressed up into a plausible account of their prevailing modes of thought and action.

The subject of temperament is of itself a study too little settled at present to permit very exact rules to be laid down from it without a preliminary examination of its whole extent. Such an examination is altogether incompatible with the brevity within which the subject under consideration must be discussed at present. Without attempting, then, either to adopt any of the views of temperament laid down by authority, or to make a new arrangement that should deserve the name of being square with the actual state of physiological knowledge, the following prominent temperaments may be regarded as sufficient to illustrate the purpose of this hurried sketch.

1. The vigorous light-haired excitable temperament—much the same as the sanguine and the muscular of authors.
2. The dark-haired excitable temperament, or choleric.

3. The light-haired little excitable temperament, or phlegmatic.

4. The dark-haired slowly excitable temperament, or excitable only to painful emotions—the melancholic.

5. The feeble light-haired excitable temperament, or light-haired serous excitable temperament—much the same as the nervous.

6. The light-haired solicitous temperament, open chiefly to unpleasant emotions—corresponding to the melancholic.

7. The mixed temperaments.

The kinds of handwriting which, as already noticed, mark the first or vigorous light-haired excitable temperament, are the large flowing open hand, and the large irregular mode of writing.

Of the dark-haired excitable temperament, the hand is small, equal, and of some freedom.

In the light-haired little excitable temperament, the hand differs but in a shade from that of the first temperament; it is probably for the most part less free, more methodical, and slow.

In the dark-haired little excitable temperament, the hand is small and cramp, altogether without openness or freedom.

In the feeble light-haired excitable temperament, the hand is running, unequal, and very variable—not very large.

In the light-haired solicitous temperament, the hand is small, unequal, not emphatic.

In the mixed temperaments the hand of course varies. In the dark-haired florid mixed temperament, the hand is free, flowing, bold, without irregularity.

A few of the general features of character in each of those temperaments afford the basis of the oracular deliverance in each case, and the rest is to be dexterously filled in with those thoughts, feelings, inclinations, and emotions, which cannot but be common to the whole human race, or at least to the whole of that part of society to which the individual under examination belongs. And this last precept is to be fearlessly followed—for under such circumstances there are few who take the trouble to distinguish between what is peculiar to themselves and what must be common to them with the rest of mankind.

The first temperament in the above enumeration is marked by a very ready susceptibility of emotions, chiefly of the lively character, by an impatience of a state of rest, by the love of change, by the desire of new sources of excitement, by less settled firmness of purpose. Müller thus describes the same temperament :—

“ In the sanguine temperament the main tendency of the mind is to the feeling of pleasure ; while there is great excitability but little durability of the states of emotion when excited. An individual of this tempera-



ment is much the subject of pleasurable feelings, and seeks that which will excite them ; he readily sympathizes, and forms many friendships, but as readily relinquishes them ; frequently changes his inclinations, and is little to be depended on ; he is easily enraged, but as soon relents ; promises readily and much, and is sincere at the time, but neglects his promises if they are not immediately performed ; conceives many projects, but never executes them ; is charitable towards the faults of others, and expects the same indulgence for his own errors ; lastly, he is easily appeased, is open-hearted, aimable, good-tempered, social, and uncalculating.”\*

Of the second, or what is termed above the dark-haired excitable temperament, the same author gives the following account :—

“The choleric person exhibits a power of action remarkable both for intensity and endurance, under the influence of passions or desires which have reference to himself or others. His emotions are highly excited whenever he experiences any opposition or check to the strivings of his mind, whether these strivings tend to the extension of the power of self, or merely to the maintenance of its integrity ; and his ambition, his jealousy, his revenge, and his love of rule, know no bounds as long as he is under the influence of passion. He reflects little, but acts unhesitatingly, either because he alone is right, or more especially because it is his will so to act ; and he is not readily convinced of his errors, but persists unalterably in the course to which his passion prompts him until he ruins both himself and others.”†

Of what is named above the light-haired little excitable temperament, Müller says :—

“When the organization of an individual is such that his mental strivings or emotions are neither intense nor enduring, he is of the *phlegmatic* or unexcitable temperament, in which the ideas of things, and the combinations of these ideas, remain more or less completely mere ideas, uncombined with any strong feelings of the restriction or expansion of self,—unmodified by pleasure, pain, or desire. The phlegmatic temperament to which we here allude is by no means a pathological condition. In persons of this temperament ideas are conceived with as much rapidity as in others, and there may be the same power of mind as in other temperaments. When the intellectual faculties are good, this temperament will render a person capable of more difficult acts, and successful in a more extraordinary degree, than would be possible were his impulses rendered stronger by a more passionate temperament. Such a person, whose mental strivings or emotions are not violent, remains cool and undisturbed, and is not drawn away from his determined course to the performance of acts which he would repent on the morrow :—he is more sure and trustworthy than persons of an opposite temperament, and his success more to be depended on : in times of danger and at moments of importance, when good judgment, calculation, and reflection, are needed rather than very quick action, his powers are all at his command. Great

\* Müller's Elements of Physiology (Dr Baly's Translation), p. 1409.

† Ibid.

energy of action, which is dependent on the susceptibility of the strivings of self, is not to be looked for in a truly phlegmatic subject, such as I have described ; but in place of it, all the good effects of delay and cautious calculating endurance. Circumstances which would excite the choleric and sanguine to hasty passionate acts, and would cause them painful and bitter feelings, are regarded by the phlegmatic without emotion, exciting merely his meditation ; so that he neither complains nor takes part in them, but pronounces dispassionate reflections upon mankind and their conditions. He does not feel his misfortunes strongly, bears them with patience, and is also not affected in any great degree by the sufferings of others. He contracts few friendships, but when he has formed them does not break them, and may be a perfectly trustworthy and useful man in society. Where rapid action is required the phlegmatic person is less successful, and others leave him behind ; but when no haste is necessary, and delay is admissible, he quietly attains his end, while others have committed error upon error, and have been diverted from their course by their passions. The phlegmatic person knows his proper sphere, and does not trespass on that of others, or come into collision with them. From this conduct, as well as from an orderly and steady course of action, in which he keeps his object in view, and avoids self-deception, he derives a contented tone of mind, free alike from turbulent enjoyments and deep suffering.”\*

In what is described above as the dark-haired little excitable temperament, the same author says :—

“The feeling of pain is the fundamental tendency of the mind in the melancholic temperament. The melancholic person is as easily excited as the sanguine, but in him painful sentiments are of longer duration, and more frequent than pleasurable feelings ; the sufferings of others excite his deep sympathy ; he fears, repents, mistrusts, and has misgivings on every occasion, and pays especial attention to every thing which favours this tone of mind. He is prone to fancy himself offended and injured, or neglected ; impediments which he meets with render him dejected, timid, and doubting ; and he loses the power either of acting or of judging. His desires are full of sadness, and of the feeling of having suffered a loss : his grief is immoderate and inconsolable.”†

It was our intention to have attempted a short description of each of the above temperaments ; but finding the accounts given by Müller so well adapted to the purpose, we have preferred quoting them.

Of the remaining temperaments on our list Müller says nothing.

The feeble light-haired excitable temperament is in many respects but a modified form of the first or sanguine, the excitability being less sustained owing to the deficiency of bodily vigour.

The light-haired solicitous temperament is a modified form of the melancholic temperament.

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\* Müller's *Elements of Physiology*, p. 1408.  
VOL. II.

† *Ibid.* p. 1410.  
3 D

The mixed temperaments are of frequent occurrence, probably much more so in modern times than in ancient, and as it would seem, from the great admixture of races, particularly so in this country. When the temperament appears to be mixed, it would be ill advised to attempt to describe it from the handwriting; but in this case the person being first described, the temperament that predominates may probably be often inferred from the handwriting.

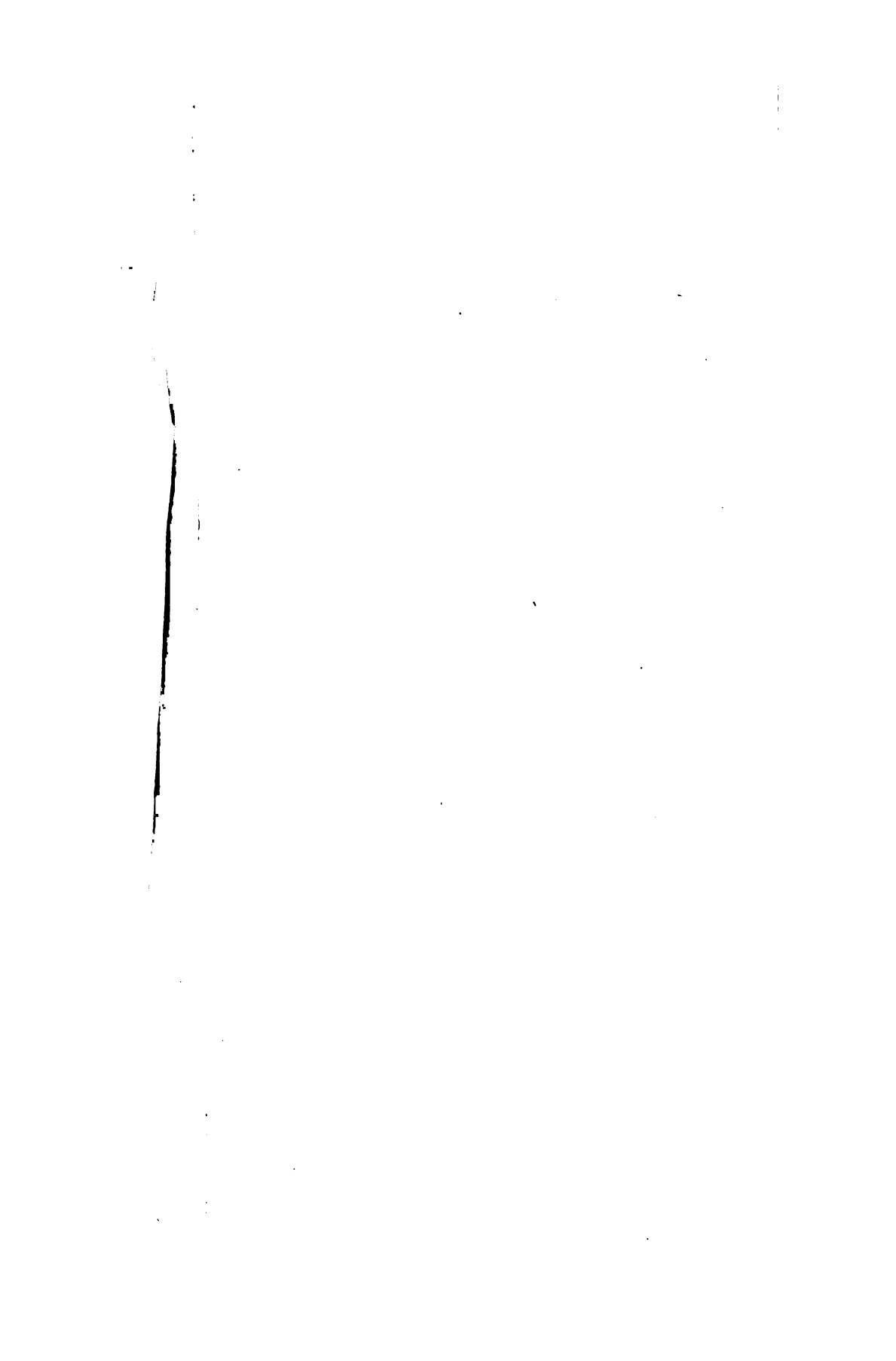
Such, then, are a few hints of the grounds on which the alleged art of reading the character of individuals in the handwriting depends. Though we regard it as a pseudo-art, not capable of being turned to much useful account, there may be some who entertain a different opinion. If these should feel disposed to cultivate the subject, we think we have pointed out to them the only grounds on which any improvement can be accomplished, namely the attentive study of the handwriting of individuals in connexion with temperament. We are not aware that this mode of cultivating it has ever been methodically entered on. We have before us a little French work entitled "*L'Art de Juger du Caractère des Hommes sur leur Ecriture.*" The mode in which the subject is treated in this little book, makes it even a great deal more fanciful and superficial than we have represented it to be. The following specimen will show the general manner in which the subject is treated throughout the volume:—"Whatever is not regular offends the eyes of a person possessed of the spirit of order. This is not the result of reason but of taste. Reason may indeed strengthen this feeling, and thus appear to be the source of it; for is there any thing more in conformity with reason than order? The inclination which directs us to order is lively, constant, and shows itself under most of the circumstances of life; the handwriting then should bear the impress of it: it is the property of that of the merchant. Thus, either by instinct or by reason, he would bestow little of his confidence on a clerk whose hand, though legible, was irregular. It is not the gift of all to write in a regular manner. One too distracted cannot fix his attention long, another makes too much haste, carried away by a natural vivacity, or agitated by the emotion of the moment; some, by an inconstancy which makes the basis of their character, are continually changing proportions and distances; others again, by a natural disposition, cannot direct their movements with precision. It may be seen, then, that the love of order must coincide with several other qualities, to the end that the wish to write with regularity may be sustained and complete in its effect.

"A regular hand may present several modifications, the chief of which is uniformity. There are certain points which must be invariable, because they are dependent on the essential



I fear from

his own



of when I spoke  
of when I probation  
You are

10

I believe ~~my~~ ~~my~~  
definitive step has yet been taken; long  
his proposition; though there was a





Votre bien  
 Li. ite nésaire  
 c la lettre

form of the letters, but there are others which may be varied at pleasure. When it is seen that the letters are constant to one form and dimension, can we refuse to believe that this uniformity does not stand related to a great constancy of character? It would be needless to add that this is fully confirmed by experience.

"Writing ought to be legible; it is the first quality required. Can an exact and careful man fail to observe this indispensable rule? It is not enough to love order. Writing may have qualities to please the eye, but it does not satisfy the mind unless it be read easily. A man of minuteness will push these qualities to excess. He will omit neither stroke, dot, nor comma. And this remark is so generally true, that it has given rise to a proverbial expression to denote a person of this character."—P. 20, *et seqq.*

From this little work we have borrowed some interesting autographs. But otherwise, the view it takes of the subject is so different from that already given, that we have not been able to derive from it any further advantage.

#### DESCRIPTION OF THE FAC-SIMILES OF AUTOGRAPHS.

1. Hand of the late Francis Horner, M. P.
2. Hand of the late Henry Mackenzie, the Man of Feeling.
3. Hand of Dr Gregory, the author of the "*Conspectus Medicinæ Theoreticæ*."
4. Hand of Daniel O'Connell.
5. Hand of Mrs Siddons.
6. Hand of Robert Burns.
7. Hand of the late Lord Holland.
8. Hand of Dugald Stewart.
9. Example of the handwriting in a decided fair-haired temperament.
10. Do. in a dark-haired temperament.
11. An intermediate hand.
12. The late Dr Abercrombie's hand just before his death.
13. A constrained careful hand, the opposite of flowing; one such as usually belongs to the dark-haired sparingly excitable temperaments.
14. Sir Walter Scott's hand.—An apparent rather than a real exception to the handwriting belonging to his temperament, which approached to that of Dr Gregory (No. 3).
15. Miss Foote's hand.
16. Miss Stephens'.
17. Lord Airlie.—A decidedly fair-haired hand; the author, however, never saw him.
18. Thomas Moore.
19. Queen Elizabeth.
20. Queen Mary of Scotland.
- \* \* The author of the little French work from which we borrow these two last interesting autographs says: "Who would believe that these two handwritings are of the same age? The first denotes hardness of character and ostentation; the other

indicates simpleness, sweetness, nobleness. The difference of these two hands plainly answers to that of their characters."

21. Chateaubriand.—On this hand the French author remarks: "It announces a character full of vivacity; it bears the impress of a lively, bold, and original imagination, which, while it engages with lofty ideas, does not neglect details."

22. Voltaire.—On this hand our author observes: "It is seldom that men of letters possess so good a hand; but it is that of a man who excelled in every thing he undertook. It denotes firmness and boldness, but also levity, facility, and a particular grace. There is here gaiety and playfulness, which, however, are not permitted to engross."

23, 24. Two female hands, also from the French work. On No. 23 the author remarks: "The handwriting of a female which indicates great evenness of character, the love of order, and much sweetness!" Of No. 24 he says: "It is the writing of a lady who had a cultivated mind, but who was deficient in order, and did not sacrifice enough to the graces!"

25. The Duke of Wellington's hand.—A flowing unembarrassed hand.

26. Professor's Wilson's hand.—This straggling, irregular hand, though not large, indicates the sanguine temperament.

27. Mr Canning's hand.—This hand also indicates a large admixture of the sanguine temperament.

28. Joseph Hume's hand.—A free emphatic hand, approaching to a business hand.

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*Trial of John Tawell for the Murder of Sarah Hart by Prussic Acid; with Remarks.* By D. SKAE, M.D., F.R.C.S.

POISONING with hydrocyanic acid has of late attracted a good deal of public attention; the acquittal, in a recent case, of an individual accused of this crime, in circumstances warranting very strong suspicions, has given to the subject a degree of interest and importance which, while it may and perhaps in the case before us actually did produce a most baneful impression as to the facility with which such a crime might be securely perpetrated, demands for that very reason the most serious consideration of the profession, and of the medical jurist in particular. The trial of John Tawell has occurred most opportunely, we may say providentially, for the exposition of those principles upon which such cases should be judged; and is extremely instructive and valuable, not only from the fact that a conviction followed upon the circumstantial evidence which was given, and that the subsequent confession of the criminal justified that conviction, but more particularly from the principles which were so clearly and authoritatively laid down by the learned judge who presided at the trial, as to the legal evidence required in such cases. The case must undoubtedly exercise a marked influence upon the conduct of similar trials, and afford a precedent of the utmost value, not more from the satisfaction afforded by the confession of the criminal, than from

the general esteem and confidence with which the opinions of so great a legal authority as Baron Parke are received.

The circumstances of the case, as proved in evidence, were shortly as follows. The prisoner, a man about fifty years of age, who had at a former time been banished for forgery, but had subsequently sustained a respectable character, and carried on business as a chemist and druggist, and was in comfortable if not affluent circumstances, lost his first wife about six years ago. Shortly before her death the deceased, Sarah Hart, a young woman about thirty years of age, entered his service, and some months after the death of her mistress became pregnant by the prisoner. She soon afterwards left his service and was delivered of a child. The prisoner continued to visit her, contributed about £1 a-week for her maintenance, and she afterwards gave birth to a second child to him. At the period of her death the deceased had gone to Slough, and resided in lodgings at Bath Place upon the Great Western Road, where the prisoner was in the habit of visiting her and paying her money. About four years ago Tawell married a second wife, a lady of great respectability and of most amiable disposition, who appears to have entertained the highest esteem and affection for her husband, and from whom he most carefully concealed his connexion with the deceased. His anxiety to conceal that connexion was increased by a wish on his part to become a member of the Society of Friends, and induced the deceased, at his request, so completely to separate herself from the world that her place of residence was unknown to her own parents for some years previous to her death. On the 30th of September last, Tawell visited the deceased at her house in Bath Place; and about ten minutes after his arrival a female friend residing with her was despatched for a bottle of porter. About a quarter of an hour afterwards Tawell left the house, and Mrs Hart, the deceased, immediately came out of the room where they had been, complaining of sickness, giddiness, and inability to stand. She said that she had become giddy immediately after drinking the porter, and had been obliged to request her old master to go away. She left thirteen sovereigns which she had received from him, lying on the table, and immediately went to bed; and after a good deal of vomiting at the time and through the course of the night, she recovered. The female residing with her drank some of the porter remaining in the bottle, and gave some of it to the children; but none of them were sickened by it in the least.

On the 1st of January last the prisoner Tawell again visited the deceased, for the purpose of paying her quarterly allowance. Before leaving London he left his greatcoat in charge of the waiter at the Jerusalem Coffeehouse, saying he was going to dine at the west end of the town, and would return for it about

nine o'clock in the evening. He then went to the station of the Great Western Railway, and left by the four o'clock train for Slough. On arriving at Slough he immediately went to the residence of Sarah Hart at Bath Place, and soon afterwards sent her to a neighbouring public house for a bottle of porter. The deceased was seen on her way home with the porter, and appeared to be in good health and spirits. Shortly after her return, between six and seven o'clock in the evening, a neighbour residing in an adjoining apartment heard a moan or stifled groan proceeding from the room of the deceased. She immediately laid down her work, and taking her candle from the table, went out to ascertain what was the matter. She then saw the prisoner coming out of Mrs Hart's house; and as she walked down the little path through the garden in front of her cottage to enter that belonging to the deceased, she said to the prisoner, "I am afraid my neighbour is ill;" but he made no reply. She then saw that he was agitated, and could not open the gate in front of Mrs Hart's house. She observed to him that it was fastened by a button; and as she opened it for him and he passed out, she distinctly remarked his face and agitation. On going into Mrs Hart's house she found the deceased lying on the floor, her head not far from the door, her legs near the fire, and her dress in a disordered state. Her clothes were up to her knees, the left stocking was down to the ankle, and the left shoe off. Her gown was torn, her cap was off and at a little distance from her, and her hair was loose. She was still making a noise, and her eyes were fixed, but she did not move her limbs. On raising her up a little, some froth came out of her mouth, and she (witness) thought she was dying. This witness then went for a neighbour, and they bathed the face of the deceased with water, and sent for a surgeon. The surgeon, on arriving, considered her dead after examining her pulse and heart; but attempted to bleed her, thinking that he observed some movement of the jaws. A small quantity of blood flowed from the vein,—but no further signs of life were observed.

In the mean time, Tawell was seen making his way quickly to the railway station, but before reaching it, he got into an omnibus going to Eton, was at his request put down at Herschel House, not far from the station; from thence he appears to have walked back to the station, when he took his place for London, by a train which left about a quarter before eight. By this time suspicion had become attached to the prisoner; and the Rev. E. T. Champneys, a cousin of the surgeon who had just been visiting the deceased, having come to the station and seen Tawell enter, imparted his suspicions to the superintendent immediately after the departure of the train. Information was instantly conveyed to London by means of the electric tele-

graph; and on the arrival of the train at the London terminus, a policeman was in waiting to watch the movements of the prisoner. Tawell was accordingly followed, watched, and on the following morning arrested. After his arrestment, he denied that he had been at Slough on the previous day; but subsequently, on the day following his apprehension, he gave a statement to the constable in whose charge he was, obviously constructed with considerable ingenuity, with the view of forestalling the conclusions which might be formed as to the cause of his victim's death. This unfortunate woman, he said, lived in his service some years ago. He had been in the habit of sending her money, and had been pestered by her writing to him for money; she had been a very good servant while she was in his service, but she was a bad principled woman. She had written to him to say, that if he did not send her some money, she would do something—would make away with herself. He then stated that he had gone down to her house, and said he would not allow her any more money; that she then asked him if he would give her a drop of porter, and that he sent her for a bottle of stout, of which each had a glass; that she held her hand over her glass, and said, "I will, I will;" that she poured something out of a small phial, not much bigger than a thimble; that she drank a part of it, and that the remainder was thrown in the fire; that she then began to throw herself about in a manner which the prisoner imitated by moving his shoulders to and fro, and that she lay down on the hearth-rug; that he then went out, and that he did not think she was in earnest, otherwise he would have called some one. When asked if he had kept any of her letters to him, he replied, "No; I do not keep such letters as these."

On the day following the death of Mrs Hart, eighteen hours after death, her body was examined by Mr Champneys, along with another surgeon, Mr Pickering. Mr Champneys on opening the body perceived the odour of prussic acid, and made some observations regarding it to Mr Pickering, who also immediately recognised it. They discovered no lesion in the stomach or other viscera of the abdomen, nor in the heart, lungs, trachea, or œsophagus, to account for death. The brain and spinal cord were not examined. The stomach with its contents was removed and preserved for subsequent examination.

On the following day the suspected matters were taken to London and analyzed by Mr Cooper, in presence of his son, Mr Champneys, Mr Pickering, and Mr Norbald. Notwithstanding the odour observed at the dissection, oxalic acid was the substance suspected to have been administered; and the investigation was accordingly first directed towards its discovery, and afterwards for that of opium, sulphuric acid,

arsenic, the mercurial salts, and other metallic poisons, but no trace of any of those substances was detected. Some of the contents of the stomach were then distilled from a sand-bath, and tested for prussic acid, of the presence of which unequivocal evidence was obtained by the formation of the Prussian blue. Part of the contents of the stomach was also distilled from a water-bath, made with a boiling solution of chloride of sodium; the clear fluid which passed over gave a deep blue, with sulphate of iron, potassa, and muriatic acid. A portion of this liquid was treated with nitrate of silver, and an insoluble white precipitate, having the properties of the cyanide, was obtained. This precipitate was afterwards treated with muriatic acid, and subjected to distillation, and the distilled fluid *smelt* of prussic acid. The odour of prussic acid was not perceived at any previous step of the analysis by any of those present—nor in the contents of the stomach itself, before they were analyzed, although Mr Cooper admitted that the acid must have been present in a free state, as the presence of free muriatic or acetic acid was indicated by litmus. On being asked whether he agreed with Mr Taylor in his Medical Jurisprudence that the odour of prussic acid may be found when all other tests fail to prove the presence of that acid, Mr Cooper said he did not believe it, and that his experience would lead him to a contrary conclusion. Sometimes he could not smell prussic acid at all, but recognised it only by its producing a spasmodic constriction about his throat. The capability of perceiving the odour depended very much upon the state of the nasal organ at the moment. Mr Cooper, and the three medical witnesses examined, all concurred in stating that the contents of the stomach smelt of beer or porter, and they considered the odour of the porter sufficient to conceal that of the poison. One of the witnesses had tried the experiment of mixing some prussic acid with a pint of porter, and, although he considered his sense of smell very acute, he could not then recognise the odour of the acid. From the quantity of cyanide of silver obtained from about a third-part of the contents of the stomach, Mr Cooper conceived that the whole contents must have contained one grain of anhydrous prussic acid, or about twenty grains of Scheele's acid, or fifty of the preparation of the London pharmacopœia.

Some pieces of undigested apple were found in the stomach, but no pips. Mr Cooper made some experiments on apple-pips, with reference to the supposition that the prussic acid in this case might have been produced from that source. From the pips of fifteen apples he obtained only a trace of prussic acid, a quantity which he stated was inappreciable.

All the medical witnesses concurred, without hesitation, in ascribing death to poisoning with prussic acid.

It was further proved that the prisoner had purchased two drachms of Scheele's prussic acid on the morning of the 1st of January, stating that he required it for external application, being affected with varicose veins. The shopman of the druggist from whom it was purchased stated that he had experimented with prussic acid and porter, and that he did not think porter would disguise the smell. He had also distilled from the pips of 15 small apples, and obtained a quantity of cyanide of silver, which indicated 2-10ths of a grain of pure hydrocyanic acid. Several prescriptions were handed to the medical witnesses, in which prussic acid was mentioned, and were admitted by them to be proper prescriptions for alleviating the pain caused by varicose veins.

A very able and impressive defence was made for the prisoner by Mr F. Kelly. The arguments upon which he rested his defence were mostly as follows; and they are interesting, as having induced Mr Baron Parke to lay down the law regarding those points more distinctly and decisively than has perhaps been ever before done in any similar case. Mr Kelly contended, that before the prosecution could call upon the jury to condemn the prisoner to death, it must be proved that the deceased died of poison, and that that poison was prussic acid taken into the stomach. Circumstantial evidence might suffice to convict of murder by violence, but not in a case of poison, of which the jury were bound to demand positive and direct evidence. He further argued that the medical witnesses who swore as to the cause of death were not competent, because they had not themselves seen a case of poisoning with prussic acid. There was no positive evidence, he said, of the quantity of prussic acid in the stomach of the deceased, or of the source whence it was derived, nor of the quantity sufficient to cause death, except from the opinions and queries which the witnesses had formed from reading the books of authors who should themselves have been summoned to the court and examined on oath. If there was not enough of prussic acid in the stomach to account for death, there was an end, he said, of the case. He further contended that the pips of the apples she had eaten, and the substances contained in a cake of which she had partaken, and the saliva she must have swallowed, and the animal substances contained in her stomach, perhaps partly decomposed, might all together have yielded the quantity of prussic acid obtained by Mr Cooper in his analysis. Other circumstances in the circumstantial evidence against the prisoner were also commented upon with equal ingenuity by the learned counsel; and he concluded by urging upon the jury that there was neither motive nor temptation to lead the prisoner to the commission of so horrid a crime.

Mr Baron Parke, in his address, rendered an important service to the ends of justice by the legal principles which he



laid down to the jury for the guidance of their judgment in the case before them. In opposition to the arguments of the prisoner's counsel, he distinctly stated, that it was not a rule of law that in such a case positive or direct evidence should be required. It was not necessary that there should be positive proof of death having been caused by poison, or of the presence in the stomach of a sufficient quantity of poison to produce death. "It was not necessary to give direct and positive evidence in every step of the case; because, between such and circumstantial evidence there was no difference, if the latter satisfied the jury that death was occasioned by poison. It was not necessary to prove what quantity of prussic acid would destroy life, by the testimony of a person who had actually seen a human life destroyed by it; neither was it necessary to prove that such a quantity as would destroy life had been found in the stomach. \* \* \* The only fact requiring to be positively proved was the finding of the body, when this was possible. \* \* \* It was not necessary, in point of law, that proof should be given that the precise poison named had destroyed life. The inquiry was the same, whether the prisoner was charged with destroying life by poison or by prussic acid." He admitted with the prisoner's counsel that it was necessary to prove that poison had been administered. The learned judge then proceeded to comment upon the evidence which had been adduced in proof of the administration of prussic acid. He very properly pointed out, with reference to the supposition that the poison might have been generated in the distillation from pips of apples present in the stomach, that there was no evidence of the actual presence of such apple-pips, and that the circumstance of the odour of prussic acid having been remarked at the post-mortem examination precluded that supposition, as it could not at that time have been created from the apple-pips. In regard to the statement made by the prisoner's counsel respecting the inadequacy of the medical witnesses, and the inadmissibility of the authorities and cases cited by them in evidence, the learned judge remarked to the jury,—“They had been told that they must have proof of the fact that the deceased had died from the effects of prussic acid, from persons who had had practical experience upon the subject, and who had absolutely witnessed death from prussic acid. They had also been told that they must have direct proof of the presence of such a quantity of prussic acid in the stomach as would cause death. But the law did not require any such proofs. The jury had heard the evidence of several scientific men—of men who had read the most authentic works upon the subject, and some of whom had tested the opinions contained in those works by experiments upon animals; and it was for the jury to say whether they were satisfied with that evidence, because if they were it was in conformity with the law.” From

their opinion it appeared that a grain, or even less than a grain, as proved by the case of the seven Parisian epileptics referred to, might cause death; and Mr Cooper had stated that he had not the least doubt that the stomach of the deceased contained at least a grain, if not more, of pure prussic acid.

The learned judge then proceeded to go over the whole evidence with great care, and to comment upon the bearing of the various facts which had been established.

The jury, after half an hour's absence, brought in a unanimous verdict of guilty.

Previous to the execution of Tawell he confessed his guilt, acknowledging that he had committed the crime in the manner proved against him on his trial.

It seems to be a general impression that the trial and the extraordinary verdict returned in the case of an individual who was tried at the Central Criminal Court, a short time before Tawell made his first attempt to poison Sarah Hart in the month of September last, both suggested the means used and the hope of escape in the event of detection, from the apparent difficulty of establishing to the satisfaction of a jury the commission of the crime. The conviction of Tawell must tend very much to correct the mistaken inferences which might be made from the result of the trial alluded to; and indeed the opinion is not concealed in some of the most able comments upon this trial contained in the public press, that had Baron Parke presided on that trial instead of the judge (now no more) who was then on the bench, that the prisoner would have been convicted, "in which event Tawell might never have been encouraged to his crime, and the unfortunate Sarah Hart might now be living."

The ingenious and eloquent counsel for Tawell was evidently driven to the adoption of the most improbable and extravagant positions and hypotheses in making out a defence for his client; but notwithstanding the tears and eloquence with which these were urged upon the feelings of the jury, the temporary impressions they may have produced were immediately dissipated by the clear expositions of the evidence and legal principles of the case by Mr Baron Parke, and the mode in which he presented them to the judgment of the jury. He distinctly laid it down that circumstantial evidence was equally available in cases of poisoning as in other modes of committing murder; that each step of the evidence might be proved by satisfactory although not by direct or positive evidence. That part of his opinion which referred to the quantity of poison actually found in the stomach, and to the competency of medical witnesses to give an opinion, although that opinion was founded upon the experience of others; the freedom with which the medical witnesses were allowed to cite cases and authorities

with regard to the points at issue, which cases, although objected to as evidence by the prisoner's counsel, were not only admitted but commented upon by the learned judge on the bench ;—these were all points of great interest and importance in this trial, and points in which it contrasts strongly with many former trials occurring in England, on which all evidence not founded upon personal knowledge has been rejected.

The most interesting medico-legal points presented in this trial are the rapidity of death, the prussic acid odour observed at the dissection of the body, the absence of that odour during the subsequent analysis, the detection of the poison by its characteristic tests, and the sources of fallacy in connexion with the apples which the deceased had been eating.

The sudden death of the deceased, after being seen in perfect health half an hour previous to her death, is rendered peculiarly interesting in connexion with the voluntary statement made by the prisoner on the day after his apprehension, before prussic acid was suspected to have been administered, or at least before he could have learned that it was. The description of her death by the witness Ashley, and the description given by Tawell for the purpose of forestalling suspicion, almost complete the descriptions of the symptoms of a case of poisoning with prussic acid. He described Mrs Hart as pouring the poison from a very small phial, as then throwing her arms about and falling down on the hearth-rug just before he went out ; the witness Ashley completed the description, by stating that immediately afterwards she found her lying on the floor, her dress disordered, one shoe pushed off and a stocking nearly so, her cap off and her hair loose, her eyes fixed, and her limbs now still ; a few short screams, and froth issuing from her mouth, were the only indications of life. The description thus afforded would in itself give a presumption of considerable force that prussic acid was the cause of death, strengthened by the circumstance of the prisoner's voluntary confession coinciding with the results of direct evidence.

The detection of the odour of prussic acid on the post-mortem examination of the body, by two surgeons, was of great importance in reference to the source of fallacy in the chemical analysis subsequently discovered, and was rendered the more valuable as a matter of evidence, from the fact that neither of the witnesses at that time imagined that prussic acid had been the poison employed. With reference to this test, as an evidence of the presence of prussic acid, it may perhaps be remarked that the precise value of it has not yet been determined. In connexion with other evidence, such as that derived from the symptoms and rapidity of death, it must be held as affording subsidiary evidence of great importance ; and in the case before us it actually did afford valuable subsidiary evidence in reference

to the supposed production of prussic acid from apple-pips : for admitting, if there had been any such pips present in the contents of the stomach, that prussic acid might have been generated in the subsequent distillation, which would at least have afforded a trace of its presence by the action of the usual re-agents employed, it cannot be doubted that it was impossible the odour could have been generated from that source at the time the body was examined. As it was quaintly remarked in the *Examiner*, "as scientific and rational would be the supposition that alcohol in a stomach might be attributed to a few grains of barley." On the other hand, it must, I think, be admitted that odours are at best fallacious tests, unless they have at least been perceived by several witnesses ; and that the odour of prussic acid is occasionally generated in circumstances not yet fully understood. An instance of its formation, in the course of the decay of unsound cheese, ascertained by Dr Witling, is referred to by Dr Christison in his work on Poisons.\*

While engaged, some time ago, in the preparation of meconic acid from a large quantity of meconate of lime, procured in the manufacture of muriate of morphia, on adding muriatic acid to the meconate a well-marked odour of prussic acid was developed, which was distinctly perceptible for several days whenever the mixture was stirred ; yet I was not able to detect a trace of the acid on the most careful analysis of a portion of the liquid. The prussic acid odour would even appear to be occasionally generated in the human body. Two such cases are cited by Dr Christison† from *Rust's Magazine*, in which this odour was observed in *post-mortem* examinations by Itard ; in one there had been inflammation of the intestines, and in the other inflammation of the liver, and in neither had any medicine containing prussic acid been given. Mr Taylor observed an odour of a similar kind in examining the brain of a person who had died a natural death.‡ The occurrence of such cases should render the medical witness cautious in giving a dogmatic opinion from evidence founded upon the recognition of the odour alone ; while, at the same time, their extreme rarity should not invalidate the presumption afforded by the odour in cases where the symptoms and other circumstances indicate that prussic acid had been the cause of death.

The fact that the odour of prussic acid was not distinguishable in the contents of the stomach, in the case under consideration, when they were subjected to chemical examination, it is not easy to explain. It is obvious, as already stated, that this cannot be explained by the supposition that the acid had entered into combination with ammonia, or any other base, as the fluid was

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\* Treatise on Poisons, 4th edition, p. 756.

† Ibid, p. 774.

‡ Manual of Medical Jurisprudence, p. 251.

strongly acid, and undoubtedly contained muriatic and acetic acids, which must have rendered the prussic acid free. That it may have been masked by the odour of the porter with which the poison had been administered, is rendered probable by the evidence of several of the witnesses, founded upon direct experiments. In a case recorded by Chevallier, the presence of prussic acid was determined by chemical analysis, although the odour was not perceptible in the contents of the stomach until they had been subjected to distillation.\*

The presence of prussic acid was unequivocally determined by the chemical investigation in this case, and the estimate of the quantity which was present, with the comparative experiments on apple-pips, taken along with the circumstance of the odour being observed at the *post-mortem* examination, sufficiently proved that the prussic acid had been administered, and had not been generated after death. The evidence on this point would have been much more complete, and less open to the objections which were urged against it on the trial, had a more careful quantitative analysis been made of the whole contents of the stomach, and also some comparative trials with fluid obtained from the distillation of several specimens of apple pips, and substances such as were alleged to have been eaten by the deceased before her death. The well-known rapidity with which prussic acid volatilizes might also have been more pointedly referred to and kept in view by the medical witnesses, as affording evidence that a much larger quantity than that accounted for by the analysis must have been present.

In conclusion, it may be remarked, that the trial, the more interesting features of which I have thus briefly recorded, must be regarded as one of great importance. With the exception of the trial and conviction, towards the close of the last century, of Captain Donellan, for the murder of Sir Theodosius Boughton with cherry-laurel water, this is, so far as I know, the first case in which a conviction has followed the commission of murder by means of this poison. The progress of general knowledge, the increased use of prussic acid as a medicinal agent, and the widely diffused knowledge of its properties and effects as a poison; the facility with which it may be administered, and the apparent difficulties surrounding the evidence which may be adduced of its administration, all render the subject one of such interest and importance, that the medical practitioner could hardly escape the charge of criminal neglect were he not to make himself acquainted with the result of such a prosecution as that recorded in the foregoing pages.

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\* Annales d'Hygiène Publique, ix. p. 337.

*Case of Presbyopia occurring suddenly.* By the late JAMES HUNTER, M. D., one of the Surgeons to the Eye Dispensary of Edinburgh. Communicated by WM. WALKER, Esq., Surgeon, Edinburgh.

47 NORTHUMBERLAND STREET,  
April 12, 1845.

MY DEAR SIR,—The accompanying case of sudden presbyopia I found as it is amongst the notes of the late Dr James Hunter. It has evidently been drawn up by him with a view to its publication. If you think that it will prove interesting to the readers of the "Northern," perhaps you will give it insertion in an early number. Yours very truly,

WM. WALKER.

*Dr Seller.*

Though the following case exactly resembles the one of which I published an account about a year ago,\* I am induced to make it public as another instance of a very rare and curious affection; as, in the course of my reading, I have not met with any similar case in which the exact degree of loss of sight, and focal lengths of the glasses required to correct it, are carefully given. I have been at some pains to supply the omission in narrating this case, in the hope of furnishing a sort of standard of comparison to future observers who may meet with similar cases.

*Case.*—On the 17th of last April, a person from the country brought his son to me that I might examine his eyes. He was a strong well-conditioned looking boy, eleven years of age, of a nervo-bilious temperament, very active, and fond of out-door sports; but withal a good scholar, and fond of reading. Fifteen days before I saw him, he was at school, and in his usual health; but about seven o'clock at night, when he set to prepare his next day's tasks, he found he could not read common-sized book type, nor distinguish accurately any very small and near object. There was no pain, nor any apparent symptom of disease in either eye, both of which were equally affected. His general health was unimpaired, and he had not received any injury of the eyes, or of any other part. During the two following days the sight became rather worse; but from that time till I saw him it had been quite stationary. Excepting the administration of some laxatives, no treatment had been adopted. Previously to the invasion of this attack, his sight had been extremely good, and he had never before experienced any similar affection, nor been subject to fits or other nervous diseases, although his father described him as of a very excitable disposition, nor had he been troubled with intestinal worms, at least since infancy.

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\* Edinburgh Medical and Surgical Journal.

The eyes appeared perfectly healthy in every respect; in particular, the prominence of the cornea, the shape, size, and motions of the pupil and iris, the size and configuration of the images of a lighted taper reflected by the cornea, and the surfaces of the lens, were perfectly normal, as far as could be judged by a careful examination. The only complaint was the inability to read common-sized print, or to see minute and near objects; for distant ones he thought were as distinct as ever, but I afterwards ascertained that his distant vision was very slightly affected. To ascertain the state of his sight, I gave him a printer's specimen-sheet, containing a series of paragraphs in all the various sizes of book type, from "English" to "Nonpareil" and the smallest "Diamond." He could read the "English" type, though not very fluently, and saw it best at 11 inches from his eye. Of the paragraph printed in "Pica No. 1" he could make out a word here and there. The paragraph "Pica No. 2" was almost quite illegible, and the smaller sizes of type could not be read at all. Directing his attention to a dark green stable door in my back garden, he could distinguish the key-hole, which was 2 inches long by  $\frac{3}{8}$  of an inch wide, the distance being 71 feet; but he could not see some black iron spikes about  $\frac{7}{8}$  inches long and probably  $\frac{1}{8}$  to  $\frac{1}{4}$  of an inch in thickness, in a dovecot at a distance of nearly 78 feet; but which even to a good eye were not very perceptible, from their being in contrast with a slated roof. The power of the two eyes seemed to be perfectly equal. In order to know the effect of different kinds of glasses, I first gave him *concave* spectacles of different foci, but they rendered his sight much less distinct. I then tried him with *convex* ones, beginning with a pair of 12 inches focus. These improved his sight very much, so that he could read any size of type, from the largest to "Brevier No. 1" inclusive. With a pair of 10 inches focus he could read "Minion No. 1." With a pair of 9 inches he could read "Nonpareil No. 2," and even a few words of a still smaller type, "Diamond," though with difficulty. With glasses of 8 inches focus he saw better; but with those 7 inches focus he saw better still, and could distinguish the smallest type I could procure. Still he could not count a series of black spots, 0.007 of an inch in diameter, placed on a white ground, without using a glass of 6 inches focus, and with this again he could not see ordinary sized type so distinctly as with glasses of 9 inches focus.

When he looked at a distant object through any of the above-mentioned glasses, it appeared less distinct. With *convex* spectacles of 14 inches focus, objects at 19 feet were seen very distinctly, but at a greater distance, as from 80 to 150 feet, he saw best with glasses of from 16 to 20 inches focus. When his

eyes were fitted with convex spectacles of a focus best suited to the size of any one near object, the point of most distinct vision was at the distance of 12 inches; but 6 inches nearer, or 10 inches farther off than this, vision became very indistinct. With the naked eye he could not see to read "English" at less than  $5\frac{1}{2}$  inches, or beyond 19 inches, and then only imperfectly, the range of distinct vision being from 8 to 17 inches; whereas an eye whose power of accommodation is unimpaired can read the same type, though with difficulty, at any distance from  $3\frac{1}{2}$  to 85 inches, and quite easily from 5 to 43 inches; thus proving that the eye of a healthy person in the prime of life has a mean power of accommodation to distances from 5 to 6 times greater than was possessed by the patient.

From the favourable term of my former similar case, I resolved to adopt an expectant treatment, after first of all administering some anthelmintic remedy, with the view of ascertaining if the patient was infested with intestinal worms. I therefore recommended that the boy should get two doses of a mixture of ol. terebinth. and castor oil, and his evacuations should be carefully examined; and that if no worms were found, he should be kept from school, made to take active out-door exercise, with a rather spare diet. I strictly prohibited the use of spectacles on any account, as being very likely to confirm the disease, whilst, if it should become a permanent affection, they could always be resorted to. Along with this regimen I prescribed a weak solution of sulphate of quinine with compound tincture of valerian to be taken twice a-day, more as a *placebo* than with the hope of any specific benefit from its action; and at the same time I gave a favourable prognosis, and warned his friends that the cure might probably be tedious.

I heard nothing more of this case from the 17th April to the 26th June, when I had a letter from his father, informing me that the castor oil and turpentine were administered twice according to my directions, and had acted powerfully as a purgative, but that there was no appearance of worms in the evacuations; after that, he had rigidly pursued the regimen and taken the medicine I had prescribed, without any apparent benefit, till about the last week of May, when the sight began to improve.

This improvement increased daily, and in about ten days after, the eyes were as well as ever, and the boy had returned to school, where he had been for three weeks without any recurrence of the disease.

July 14, 1840.



## PART II.—REVIEWS.

*Treatise on Inflammation as a Process of Anormal Nutrition.* By JOHN HUGHES BENNETT, M.D., F.R.S.E., &c. &c. 8vo. Pp. 79.

THIS treatise contains the substance of several lectures delivered by the author on the process of inflammation at the evening meetings of the Royal College of Physicians of Edinburgh, in the summer of 1843. It is some time since we received Dr Bennett's work, but as we devoted no small portion of our May number of last year to the consideration of the state of our knowledge of the process of inflammation, we deemed it hardly admissible to take up the same subject, however differently handled, till some months more had elapsed. The work is entitled a "Treatise on Inflammation as an Anormal Process of Nutrition."

In the preface he says, "His first communication was made to the Medico-Chirurgical Society of Edinburgh in November 1842, and an abstract of it appeared in Cormack's Journal the following month. In the summer of 1843, the views now published were laid before the leading members of the profession in Edinburgh, at the evening meetings of the Royal College of Physicians. The facts from which they are derived also were then demonstrated under a series of achromatic microscopes. Since then the valuable Reports of Henle and Wharton Jones have been published, which, although they contain many of the facts noticed by the writer, in no way allude to others. Among these may be mentioned the identity in structure between the capillaries and non-voluntary muscular fibre; the structure of lymph in its various forms; the distinction between the plastic and exudation corpuscles; the identity of the latter with the granular bodies of the colostrum; and the means of distinguishing inflammatory and non-inflammatory softening.

"The author has attempted to establish an increased exudation of blood-plasma as the essential phenomenon of inflammation. He thinks that this view of the subject will introduce much more precision into our notions of its pathology, and be found of considerable value in practice. He has further endeavoured to point out how all known facts harmonize with this opinion, and how all the phenomena produced are explicable by the cell-doctrine of nutrition now established in science."—*Preface.*

In a short introduction he declares his belief that, "in physiology, a theory of organization has been shown to apply to all animated nature,—the vegetable as well as animal kingdom. It has been demonstrated that the humblest and minutest tribes of plants possess the same original structure as is to be found in the most gigantic trees of the forest, and in animals the same law applies to the production of microscopic infusoria as to the development of the largest mammiferous tribes. It is now generally admitted that the functions of nutrition and growth are perfected by means of the formation and development of nucleated cells, and the numerous facts which have tended to elucidate this truth constitute the basis of the doctrine of cytogenesis.

"This theory has been applied with great success to an explanation of the mode in which the normal textures are formed, as well as to the manner in which healthy nutrition and secretion take place. But I do not think that its value, as illustrative of diseased processes, has yet been sufficiently dwelt upon, or that it has been shown to be as universally applicable to the explanation of morbid as of healthy phenomena. If, however, it admit of demonstration that the organic diseases to which animals and vegetables are subject, that the formation of new growths and the reparation of tissues, are explicable by the same theory as applies to the development of healthy structure, it must be allowed that a great step will have been made in pathology. Such a consummation, indeed, might enable us to approximate if not actually reach some primitive or fundamental law which can alone communicate exactitude to medical science."—Pp. 9, 10.

He then mentions the following as the heads under which he is to discuss the subject:—"1st, Cellular theory of nutrition; 2d, The blood; 3d, The capillaries; 4th, The early phenomena of inflammation; 5th, The essential phenomena of inflammation; 6th, Terminations of inflammation; 7th, The circumstances influencing the terminations; and, lastly, The conclusions from the whole."—P. 11.

The doctrine of cytogenesis, we see, claims to be a theory of organization applicable to the whole of organic nature; it claims to exhibit the unity of organic nature in its most striking light. We acknowledge unhesitatingly that the authors of this doctrine have exhibited the unity of organic nature in a new light; but we cannot admit that the doctrine has as yet attained the rank of a theory fit to solve points of physiology, healthy or morbid. In the unity of organic nature we are firm believers, but we guard ourselves from being imposed on by words which seem to signify more than has been proved to belong to them.

The unity of the power which governs the universe has been acknowledged from the very infancy of science. And this inference, in as far as it is an inference of philosophy, manifestly flowed from the repeated observation of the harmony which runs through the operations of nature; of the dependence of the phenomena in one part of nature on the phenomena in the several other parts of nature; in short, of the all-pervading oneness of correspondence, accommodation, adaptation, in the universe. No doubt this inference was not exactly a conclusion of inductive science, but rather a deduction in what may be called the philosophy of final causes,—a philosophy which, being founded on the consciousness of the power of self to will bodily acts in all their intricacy, readily appreciates oneness of purpose amidst very complex circumstances.

Thus there is a manifest distinction between oneness of power in the universe and the oneness or simplicity of law in nature to which the doctrine of cytogenesis points. The establishment of all the truths tending to exhibit oneness of law in nature belongs purely to inductive science. And the unravelment of any indications of such a oneness of law, especially in the minuter parts of nature, was long subsequent to the general acknowledgment of the oneness of power in the universe.

The discovery of universal gravitation, namely, the perception of the operation among the heavenly bodies of the same gravitation known to all, from the first, as uniformly prevalent at the earth's surface, or what is the same thing, the elevation of the Earth to the rank of a heavenly

body, was the first great step made by inductive science towards unity of law in physical nature.

The establishment of the sexes of plants, or the discovery that reproduction in plants in a great measure falls under the same law as reproduction in animals, was another great step towards the same end in another department of nature.

But this same progress of the enlightenment of men's minds on the unity of nature, rashly followed out, has in the mean time led to much error. Faint or forced analogies have been mistaken for new instances of the simplicity of natural operations. The subject under consideration, namely inflammation, has run the gauntlet of violently forced mathematical, mechanical, and chemical analogies, in the vain effort to extort a simplicity from the phenomena of life at a less price of labour than nature is disposed to sell her secrets for. The same thing has happened in every department of knowledge, both physical and physiological. Look at the long efforts to establish a strict analogy between the lungs of animals and the leaves of plants, to prove that the function of both must be to consume oxygen and give off carbonic acid. On a superficial view, to establish this seems necessary towards an enlargement of our idea of the unity of nature. Yet how much more refined is her plan! Did both plants and animals consume oxygen, there would be in truth a want of unity in the operations of nature. Again, while certain analogies have been found to exist between the nutrition of plants and the nutrition of animals, the unity of nature's plan here also lies in a signal contrast as regards the description of food proper to each. For the food of plants is exclusively, or almost exclusively, mineral, while that of animals is, with as little exception, organic. The plan of nature is, that the vegetable organism should assimilate inorganic matter to its own substance, and that the animal organism, while it is sustained by the organic products of the vegetable kingdom, should be perpetually converting organic matter into the inorganic state, which is indeed a unity of plan by a union of methods that stand in contrast.

While, then, the progress of inductive science is necessarily from complexity in our views of nature to simplicity, it is not always the apparent simplicity which attracts human attention most that turns out to be the true simplicity of nature. This axiom we recommend to be borne in mind by physiologists and pathologists in their efforts to expound the phenomena of life in health or disease by the views of cytogenesis.

It was not to be supposed that the unity which had displayed itself by such manifest proofs in the contemplation of the governing power, and in the laws of the more conspicuous operations of the universe, should fail when the structure and development of the two kinds of living matter came to be inquired into. Accordingly, microscopical inquiries have already made it apparent that remarkable features of resemblance exist between the original germs in both organic kingdoms, as well as between the modes of development of these into perfect individuals, and moreover that a close analogy prevails throughout both kingdoms between the development of the germ in reproduction into a perfect individual, and the maintenance of the individual in the ordinary process of nutrition, when the appropriate food is presented. This touches on the doctrine of cytogenesis; and here we shall allow our author to speak for himself.

"The general formation of tissues from cells in vegetables may be shortly described as follows. There is, first, a granular fluid; secondly,

a nucleus is formed, which some have described as being made up of an aggregation of these granules, and others as a corpuscle of a white or dull red colour, enclosing a granule or nucleolus. Upon this nucleus arises a transparent vesicle, at first somewhat resembling the appearance of a watch-glass rising from the dial of a watch, and then the whole constitutes a nucleated cell. The walls of the cell now enlarge. If several lie together they assume a polyhedral form, from the lateral pressure they receive, as in the pith of some plants; fibres are formed from their becoming elongated and splitting up; tubes from the partitions being absorbed whilst the walls remain; and more solid textures from woody or calcareous depositions taking place on their internal walls. After a time the nucleus disappears, leaving a non-nucleated cell; but it sometimes remains permanently. It must not be supposed, however, that every granular fluid gives rise to a nucleus, every nucleus to a cell, or that every cell assists in forming other textures. Granules, nuclei, and cells, often remain permanently, thus constituting the basis of several fluids and textures. Some cells have their organization completed when fully developed, as in the *Protococcus nivalis*, and *Torula cerivisiae*.

"In animals the same process takes place. The ovum is a nucleated cell of which the germinal spot is the nucleolus, the germinal vesicle the nucleus, and the vitelline membrane the cell wall. Dr Martin Barry has admirably traced the formation of cells within these, from which, as in vegetables, all the animal structures are formed. As in certain tribes of plants some of these nucleated cells are persistent, so in animals, others, such as blood corpuscles, pigment cells of the choroid, fat cells, and those in cartilage, are permanent; in others, the cells undergo various modifications in shape, until they ultimately become developed into the different animal structures. Late researches also would indicate that the nuclei are not only persistent in some of the fully formed tissues, but undergo alterations in form, being flattened and elongated.

"Reproduction from nucleated cells has been shown to take place in two ways,—1st, By the formation of a fluid between the nucleus and cell wall, in which granules are produced, and subsequently nuclei and cells, until the original cell wall breaks or disappears, giving exit to the new productions; 2d, By new cells arising within the old one, through the division of the nucleus into two or more segments, from each of which a new cell is formed.

"This species of growth depends upon the supply of nourishment from without. At the earliest period of development, when the cells are loose, we find them swimming in an albuminous fluid, which contains in solution the elements of nutrition. The cell wall appears to possess a certain vital principle of selection, by means of which these are absorbed. This fluid is called cytotblastema. In the higher plants, when the cells coalesce and undergo transformations, one of the first results of organization is for some of these cells to form a series of canals, by means of which this nutritive fluid is carried to all parts of the organism. In vegetables these vessels, by a species of endosmosis, absorb a nutritive fluid from the soil. This is called sap, and is sent to all parts of the plant. By a species of exosmosis it is again exuded, and constitutes a blastema for the formation and support of nucleated cells. In this way vegetable nutrition is kept up.

"Exactly the same process takes place in animals. The ovum, when merely a nucleated cell, is nourished by a vital selective species of

endosmosis. In the higher animals, again, one of the first processes is the formation of canals from cells to carry the nutritive fluid to every part of the organism. In oviparous animals a large quantity of material is accumulated within the shell, constituting the yolk and albumen, from which nourishment is derived. In mammiferous animals, during uterogestation, this fluid, or cytotblastema, is also obtained by endosmosis from the blood of the parent; and in them, again, by a species of exosmosis, effused for the origin and support of nucleated cells, which rapidly undergo transformations to form the future being.

"After birth nutrition is carried on in a similar manner, only that materials are then conveyed into the stomach and intestinal canal, and from these the vessels, by an endosmosis similar to what takes place in plants, absorb a nutritive fluid called chyle, which is ultimately converted into blood.

"Thus nutrition in all organized beings consists in the formation of a cytotblastema, in which nucleated cells are formed, which are again ultimately developed into the different textures or made subservient to the function of secretion."—Pp. 12, 13.

The doctrine, then, as adopted by our author, is, that the development, growth, and maintenance of organic bodies depend on the presence of a nutritive fluid, and of cells or other organisms which grow by intussusception, that is, by the absorption of new substance from this nutritive fluid. This idea, as a general principle, yet as a general principle only, may be pronounced to be sufficiently borne out by ascertained facts and observations. It is already a rule to guide us in the further examination of organic nature; but it is as yet too vague to permit us to draw conclusions, without the intention and the means, by distinct evidence, of verifying their accuracy as separate facts.

The incautious use of this theory may manifestly lead to error in physiological inquiries, because it is acknowledged that cytogenesis is not the only mode of development, growth, and maintenance in organic bodies. Till all the other modes in operation be ascertained, it is obvious that we push forward blindfolded. Then, in several parts of the above account of the theory, in Dr Bennett's words, we are startled with expressions that point to the spontaneous rise of cells or organisms in the nutritive fluid, after having caught up the simpler idea that the organisms, whether in the form of granules, nuclei, or cells to be developed, must originate from an organic parent, or a perfectly developed organic part, and that the cytotblastema has no office but that of nutrition. If it be necessary to admit that organisms spring up in a nutrient fluid formed from dead organic matter, such as the food of animals, the theory loses much of that perfection which seems at first view to belong to it. And if we believe with Liebig that the food of plants is exclusively inorganic, there will arise a complete want of analogy between the cytotblastema in animals and the cytotblastema in plants. On the contrary, if the germs in both cases be regarded as derived from a developed parent organic body or parent texture, then, the distinction between growth and the means of growth being preserved, the theory retains no small degree of perfection.

But we must bestow no more time on the mere preliminaries of our author's treatise. Passing by, then, his account of the experiment in which oil and albumen mixed form into a species of membrane, and the reflections in which he indulges on this subject, as not immediately connected with the process of inflammation, we come to his account of the blood. This

part of the paper contains a brief view of the opinions held on the several constituent parts of the blood by different authorities. We must content ourselves with citing the two concluding paragraphs :—

“ We find, then, that the blood consists of a solid and of a fluid portion, and may be regarded as continually carrying on two great systems of operations. The solid particles are subservient to the production of animal heat, whilst the fluid portion is subservient to the function of nutrition. These two operations are intimately connected with one another. Without a certain temperature, as we shall afterwards see, the growth of organized beings cannot proceed, and without the existence of nutritive elements, capable of undergoing chemical transformation, animal heat cannot be maintained.

“ In the performance of these important operations the blood itself is dependent on a system of vessels distributed through the organism. Whilst the first furnishes the essential material, the latter is the apparatus through whose agency the effects are produced. Thus we are led to a consideration of the capillaries.”—Pp. 22, 23.

In the next section, on “ the capillaries,” he describes the six coats of the blood-vessels after Henle, and enters on some discussion as to their structure, coming to the conclusion that the third and fourth layers correspond to the muscular fibres of the intestines, that is, to the non-voluntary muscular fibres. We quote the two concluding paragraphs of this section :—

“ The more specific office of the capillaries and intermediate vessels is evidently, 1st, so to subdivide the blood that it may reach every portion of the organism, and enable its corpuscles to perform their function. 2d, To offer a membrane by means of which exosmosis and endosmosis may be effected. What the connexion may be between the vital properties of those vessels and the exudation of blood-plasma it is difficult to determine. We may remark, however, that the delicate homogeneous structure they present admirably fits them for acting as fine filters subjected to vital laws,—retaining the solid corpuscles and granules, and allowing only the fluid portions to transude. How far the circulation is influenced by the contractility of the capillaries is still a matter of inquiry.

“ From these considerations the importance of the capillaries, as connected with nutrition, will become apparent. So long as they only permit that amount of blood-plasma to exude which is capable of supplying the quantity dissipated by waste, so long they may be considered as performing their functions in a normal manner. But when circumstances induce such a change in them that the amount of exudation is materially diminished or increased, then an *anormal* state is occasioned. If the amount be diminished, atrophy will be produced; if it be increased, that peculiar pathological change hitherto denominated inflammation is constituted. The steps by which this is occasioned we shall now proceed to consider.”—Pp. 26, 27.

The fourth section brings us to “ the early phenomena of inflammation.” The first paragraph runs as follows :—

“ Numerous researches and experiments have determined that the phenomena of inflammation, as observed under the microscope, take place in the following order :—1st, The capillary vessels are narrowed, and the blood flows through them with greater rapidity. 2d, The same vessels become enlarged, and the current of blood is slower, although even. 3d, The flow of blood becomes irregular; it oscillates, that is, goes forwards and backwards, and sometimes stops for a period, and then resumes its course.

4th, All motion of the blood ceases, and the vessel appears fully distended. 5th and lastly, The blood is either effused by rupture into the surrounding tissues, or the *liquor sanguinis* is exuded without rupture. These different phenomena produce the more evident appearances of redness, heat, pain, and swelling."—P. 28.

The phenomena stated in the above extract coincide very closely with part of the account given in our May number of last year of the known phenomena of inflammation. We did not attempt to offer any theory of those phenomena. Dr Bennett adopts the following:—

"We are therefore compelled to conclude, that the most satisfactory theory which can be advanced explanatory of the facts we have described is one which conceives the existence of an increased mutual attraction between the blood and surrounding parenchyma. Hence may be explained the gradual approach of the blood-corpuscles to the sides of the vessels; the encroachment on the lymph spaces and subsequent stoppage; the effusions and exudations where the fluid portions of the blood are drawn through the capillaries, sometimes causing them to crack, and the blood corpuscles to extravasate.

"This view of the increased attraction between the blood and parenchyma, should it be only regarded as mere hypothesis, appears at least to be forced on us by a certain necessity. It must only be regarded as a short mode of expressing facts, in the same way that we make use of attraction and repulsion to express electrical phenomena, or of gravitation to explain a variety of physical facts. We should also remember that a theory in science can only be considered as correct or useful when it embraces every known fact. If it do this, it serves as a principle or guide which enables us to group together isolated phenomena without fatigue to the mind. We hope that the discussion we have entered into, though it necessarily consists of close reasoning, sufficiently exhibits that we have attained this end, and that the early phenomena of inflammation may be ascribed, 1st, To a vital contractility and relaxation of the capillaries, analogous to, if not identical with, spasm and paralysis in muscles; and, 2d, To an increased attraction between the corpuscles of the blood and the surrounding parenchyma."—Pp. 35, 36.

Dr Bennett concludes, from the view taken in this section, that the narrowing of the capillaries and the more rapid flow of the blood are owing to a spasm of these vessels; that their subsequent dilatation and the slackened motion of the blood result from a kind of paralytic state which follows; and that "the oscillation in the column of blood, the encroachment on the lymph spaces, complete repletion of the vessel with blood-globules, and lastly, total cessation of all movement," arise from "an increased mutual attraction between the blood and surrounding parenchyma."

This, then, is Dr B.'s theory of inflammation. It deals, it must be confessed, rather largely in assumption,—spasm, palsy, and augmentation of mutual attraction between the contained blood and containing vessels. Our older pathologists were content in general with one assumption to found their explanations of inflammation on; Boerhaave assumed "error loci," Cullen, spasm; Vacca, loss of power—equivalent to Dr B.'s palsy; and the more modern Mandale, increase of attraction. Dr Bennett boldly assumes all the three last—he cuts the knot he cannot untie. Although, however, we think Dr Bennett has hardly made a happy choice of the words in which his theory, so to speak, is expressed, we entirely agree with him in the utility of having morbid phenomena, especially when

complex, couched in brief terms ; and that such terms as he has employed to represent the succession of the first phenomena of inflammation are of signal benefit when generally adopted, and always made use of in the same sense. But we fear spasm and palsy are terms in favour of which, in this subject, there is no prepossession in the minds of the profession. And we think Dr B. would have done better had he contented himself with expressing the first phenomena of inflammation as being the effect of a constriction of the capillary coats, succeeded first by relaxation and slow motion of their contents, and then by oscillation and stagnation. In short, a theory is after all nothing more than a brief expression for the whole phenomena, and differs from an enumeration merely in being generalized or raised from a string of particular facts to the form of a more or less simple general fact. A full theory of inflammation, however, requires that the exciting causes should be connected with the rise of the phenomena. In his conclusions from the facts and reasonings contained in this section, Dr B. seems to despise attempting to connect any previous event with the constriction of the capillary vessels. He contents himself with saying that their constriction in this case is from a vital cause. Yet he reasons just before on the power of the nervous system over the capillaries, as in the case of anger, fear, &c. If we understand Dr Bennett aright, he takes too limited a view of reflex nervous action. He seems to say that if an agent act locally on a part through its nerves, that the effect cannot be reflex, it must be direct. We put no such limitation on the office of the nervous centre. Without binding ourselves to the particular views of Marshall Hall, we thus express the great law of nervous action,—“that impressions made on the extremities of certain nervous filaments are succeeded by influences transmitted from the central organs, or the ganglionic centres, by which changes on the unmechanical state of distant parts are brought about” \* without any limitation as to the proximity or distance of the part first affected, in relation to that on which the final effect is produced. Our ideas on this subject were derived originally from Whytt, Prochaska, and Alison, before Marshall Hall monopolized the knowledge of it.

We see no difficulty, then, in believing that the exciting cause of inflammation may act locally on the part about to be affected, and yet that the constriction of its capillary vessels may be the result of an influence transmitted reflexly from the nervous centre.

Dr Bennett ascribes the acceleration of the blood to the narrowing of the vessel—which is true, if adopted with due limitation. He affirms that the increased pulsation of an artery leading to an inflamed part is not the cause of the congestion which at length takes place in its capillaries, but that it is the effect of that congestion. In this we agree with him. As to the dilatation of the capillaries, he adopts the following statement from Vogel :—“The dilatation of the capillaries in congestion is an innate vital action of these vessels, resulting from causes acting upon the nervous system, either direct on the peripheral nerves, or indirect from the nervous centres—possibly also upon a direct operation of the cause upon the vascular walls.”

After reviewing the several accounts given of the cause of the stoppage of the blood, he comes to the conclusion already mentioned, namely, that

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\* Northern Journal of Medicine, No. I. p. 58.



it arises from a new attraction between the blood and the sides of the affected capillaries.

On this part of the subject we would willingly dwell; but as it cannot be regarded as illustrated by the doctrine of cytogenesis, the application of which to inflammation appears to be the principal aim of Dr B.'s treatise, we must hasten to place before our readers the contents of some of the sections which follow.

Our author's peculiar views are brought out when he speaks of the discharges which take place from the capillaries of the inflamed part. Such a discharge, following Alison, he regards as an essential phenomenon of inflammation, and holds that if the previous changes take place, and pass off without any discharge having taken place, that the case stops short of inflammation.

We pass by the extravasation of blood in mass, as rather a kind of accident in inflammation than a regular phenomenon. And under the head of effusion of serum we will only notice the important distinction dwelt on by Dr Bennett between passive and active effusion of that fluid; the first, being that which constitutes chronic dropsy, is the result of venous obstruction; the other being the effect of inflammatory congestion in the arterial capillaries. The non-inflammatory effusion is clear, or holds no fibrine suspended in it; the serum, on the contrary, effused in inflammation, is turbid, owing to the presence of fibrine, and if allowed to stand deposits flocculi.

But the important part of this subject comes under the head of the discharge of blood-plasma or of liquor sanguinis, that is, of the blood deprived of its vesicular part, or red particles. Dr Bennett regards the discharge of the blood-plasma or liquor sanguinis as giving rise not merely to false membrane and adhesions, as in serous membranes, but also to mortification, ulceration, softening, suppuration, and the formation of permanent tissues. We are not prepared, without further consideration, to subscribe unreservedly to all that our author teaches on this subject; and this reserve applies both to some part of what he has drawn from other authorities as well as what he has wrought out for himself. But we regard this part of his paper as of the highest interest, and as containing matter worthy of the deepest reflection and the most attentive examination. We have ourselves derived much instruction, and no small enlargement of our previous ideas on the subject, from the views which he exhibits.

The quantity of coagulable lymph thrown out under mortification of parts has long been matter of common observation; and, according to the Hunterian ideas, this abundant deposit is the effect of gangrene, and designed for the physiological purpose of preventing death by hemorrhage on the separation of the gangrened part. According to the view adopted by Dr Bennett, this abundant effusion of coagulable lymph is the cause of the gangrene. "The exudation thus formed compresses the part so as to obstruct the blood-vessels and prevent the continuance of any circulation in it." But many difficulties occur to us to be removed before this view can be assented to.

Ulceration he regards as differing from gangrene chiefly in its chronic character, being also the effect of a discharge of blood-plasma, not disposed to undergo rapid decomposition as in gangrene, but having little tendency to organization.

When organization follows inflammation, as in the false membrane and adhesions of serous membranes, cells, according to our author, are discovered

in a state of progression, or undergoing development into fibres. In this coagulable lymph, on being first effused, filaments and corpuscles are observed. "These corpuscles, for the most part, are from  $\frac{1}{100}$  to  $\frac{1}{75}$  of a millimetre in diameter, formed of a delicate wall containing granules from  $\frac{1}{1000}$  to  $\frac{1}{500}$  of a millimetre in diameter, which vary in number from 3 to 12. They are not perfectly round, but somewhat irregular in form." These corpuscles Dr B. terms plastic corpuscles, "as constituting the characteristic structure of the plastic lymph." From these corpuscles, then, the new organization proceeds on the principle of cytogenesis.

The deposit of blood-plasma in the parenchyma of organs, as of the brain, lungs, &c., constitutes, according to our author, inflammatory softening. This name he thinks applicable to hepatization of the lungs, notwithstanding its greater density than that of healthy lung, because the increase of density is simply owing to the exclusion of air by the new deposit, which takes its place, and the evidence of the propriety of the name *inflammatory softening* here, is, that a hepatized lung offers less resistance to the pressure of a finger thrust into it than a healthy lung.

The liquor sanguinis undergoes a different kind of coagulation, when poured into such parenchymatous textures, from what takes place on serous surfaces. Filaments are not formed, but minute granules appear, from a size scarcely measurable to the  $\frac{1}{100}$  of a millimetre in diameter. This granular formation may be seen coating the vessels in layers more or less thick, according to the quantity exuded. Sometimes only a few are scattered over the external surface of the vessel. We regret that we cannot give the whole of Dr B.'s description under this head.

Under the head of suppuration, we can find space for no more than two short quotations :—

"The corpuscles in laudable purulent matter are perfectly globular in form, and vary in size from  $\frac{1}{100}$  to  $\frac{1}{80}$  of a millimetre in diameter. Their surface is finely granulated. They have a regular well-defined edge, float in the *liquor puris*, and roll freely upon each other. On the addition of water, they become much increased in size, their finely granular surface disappears, and they become more transparent. Weak acetic acid partially, and the strong acid completely, dissolves the cell wall, and brings into view the nucleus, which generally assumes the appearance of two or three granules close together, each with a central shadowed spot. They are generally about  $\frac{1}{100}$  of a millimetre in diameter. Occasionally four or even five granules may be observed. Alkalies and ether entirely dissolve them.

"The idea put forth by Vogel, that the pus corpuscle is a species of epithelium cell, may be considered correct, if by the latter term he understands any kind of cellular structure thrown off from the surface of membranes; but if it be meant that the normal epithelium cell ever becomes converted into a pus corpuscle, the opinion is opposed to observation, and inconsistent with the large granulations of the latter produced. Neither have I ever seen any grounds for supposing with Gerber that they arise from the splitting up of the exudation corpuscle. It is more consistent with known facts to suppose that each of these organisms are independent structures, arising primarily in the exudation, and are not convertible into each other."—Pp. 57, 58.

Under the head "Transformation of the Exudation into Permanent Tissues" we extract one paragraph :—

"The process by which this regeneration of parts takes place is essen-

tially inflammatory ; that is to say, an exudation of blood-plasma from the capillaries occurs : this serves as a blastema for the formation of nucleated cells, which become transformed into different structures according to the law of cytogenesis. In the words of Vogel, the process is ' the same as occurs in the organization of all the tissues, as observed in the embryo. It is the same whether this organization takes place from fluid or already coagulated exudation. So far as our observation extends, it always follows from a formation of cells. In the exudation arise *nuclei* with *nucleoli*, and these form a cell wall. Thus primary cells are produced, which, according to the general laws of organization, pass by further development into the different tissues, as blood-corpuscles, cellular tissue, cartilage, bone, nerves, &c."—P. 60.

On the subject of the formation of new vessels in inflamed parts, Dr Bennett is brief. He cites the two opinions : the first, that the new vessels form independently, and then become connected with those before existing ; the other, that the new vessels are produced by the projection of blood-corpuscles into the coagulated lymph, through ruptures in the sides of the previously existing capillaries. We stated this last view fully enough in our review of the work of Mr Travers, and that opinion we still think is supported by the better evidence both in point of observation and analogy.

We have now given a sufficient account of the views entertained by Dr Bennett to enable our readers to judge of the general plan on which he treats of inflammation. Some of the sections which remain we must pass by, though they contain many interesting observations. We have still to sum up our opinion on the views of inflammation taken by Dr Bennett, and by those who treat of inflammation on a similar plan.

First of all, then, has the doctrine of cytogenesis led us to much more exact ideas of this process ? We have to repeat here what we said above, that the doctrine of cytogenesis is not of a kind to enable us to deduce a true theory either of healthy nutrition or of inflammatory action, being adequate only to pointing out certain general maxims on which these processes are to be investigated.

The doctrine of healthy nutrition, not proved but suggested by the doctrine of cytogenesis, is that the blood is a true cytoblastema or nutritive fluid ; that there are in the tissues to be nourished germs ready to be developed ; that when the healthy blood-plasma is brought into contact with these germs, development takes place by intussusception ; and that, while new germs are formed in continuity with those already sufficiently developed, others go forward to maturity, and those already in maturity to decay. Thus every tissue is represented as resembling in some striking respects the aggregate of a species of plants or animals, some of which are just forming, others advancing to maturity, and others decaying ; and the blood-plasma here holds a place analogous to the food of that species. The blood is a fluid, not in the chemical but in the physiological sense, a chemical fluid, namely, water containing solid matter, some part of which consists of organisms ;—but where is the evidence that there are organisms in the blood-plasma !—the vesicular part, the red corpuscles, are the only undoubted organisms of the blood ;—or if it be contended that the blood-plasma also contains organisms,—whence did they originate !—from what previously existing living organisms, in accordance with the simpler view of cytogenesis, were they derived ? The aliments of the human body, as of animals in general, are organic matter, yet not in a state which is with any strictness said to be composed of organisms capable of development, or of nutritive

reproduction. Man's food is dead organic matter ; but it does not follow, because the blood-plasma is organic and nutritive, that it therefore contains organisms or corpuscles themselves capable of development by intussusception. Yet this seems to be taken for granted by Dr Bennett and his fellow-labourers in this department. This we regard as a defect which almost destroys the value of the theory. Could it be shown, as observed above, that all development of organic bodies depends on the growth of cells when a nutritive fluid is present, these cells being the product of previously existing cells in a living body, then there would be something like a great law declared. But when we are told that cells undergo such a development at times, but that at other times cells arise independently of any previously existing cells, as in the liquor sanguinis, which is formed from dead inorganic matter through the chyle, then the whole character of the theory is changed, and in the moment of our disappointment we can see little more of principle in it than in what Ovid says of the origin of the giants :

" Perfusam multo natorum sanguine terram  
Incaluisse ferunt, calidumque animasse cruorem."

Let us not, however, be misunderstood. We are far from intending to throw ridicule on the study of the laws of the animal economy on the plan under consideration. We believe, with Dr Bennett, that the time has now arrived when on this plan only can a farther progress be made. But we must still insist that this plan is in its merest infancy, and that its cultivators must be content to pique themselves on their industry, in a field which yields but a slow return, rather than on having already solved problems which have defied the utmost efforts of science in past ages.

Thus, on what may be called the mechanism of the process of inflammation, Dr Bennett's inquiry leaves the subject pretty much in the same state in which it is found in most works of pathology,—a succession of mechanical changes on the state of the blood-vessels, rather vaguely referred to vitality and the operation of the nervous system. And in regard to the ulterior changes produced by the process, we have the discharge of liquor sanguinis taking on one form at one time to produce one effect, another form to produce at another time another effect, and a third form on other occasions to produce a still different effect,—but as yet no sufficient intimation of the conditions which determine the liquor sanguinis to go through these different phases at different times.

Nevertheless, could we persuade ourselves that gangrene, ulceration, adhesion, false membrane, softening, suppuration, and the production of new textures, have all been proved to be the result of the discharge of the same blood-plasma, variously modified even by conditions still undetected, we should feel obliged to confess that a great step in advance had been made.

That this has not been made satisfactory to us is not a fault chargeable on Dr Bennett, but on the difficulty of the subject.

The treatise is, however, highly creditable to the talents, industry, and acquirements of the author, and we willingly confess that, from the attentive perusal of it, we have derived much valuable instruction.

## PART III.—PERISCOPE.

## ANATOMY AND PHYSIOLOGY.

*Anatomical and Pathological Observations.* By JOHN GOODSIR, F.R.S.E., Demonstrator of Anatomy in the University of Edinburgh, and HARRY D. S. GOODSIR, M.W.S., Conservator of the Museum of the Royal College of Surgeons, Edinburgh. Edinburgh, 1845. 8vo, pp. 127.

*Absorption, Ulceration, and the Structures Engaged in these Processes.*

WE extract the following short article from the excellent series of anatomical and pathological observations quoted above, a work which we recommend strongly to the attention of our readers.

"Every organic cell, the most simple as well as the most complicated, when a separate organism, or when a part of a more highly organized being, existing as a mere magazine of matter, or performing some of the more striking of the vital functions, invariably exhibits a phenomenon which is antecedent to all others, absorption from without of materials for its own growth.

"The various kinds of cells in any organism differ from one another in this respect, that they have the power, each after its kind, of selecting and procuring from the circulating medium, or from other sources, the sort of matter necessary for their own growth: or they have the power of elaborating, or of conducting to the chemical change of the matter which is absorbed by them. In this respect the component cells of animals and vegetables resemble the various species of beings of which they form parts: they have not only the power of selecting food, but the various species out of the same kind of food are formed of matter and of parts which are specifically different.

"A most important circumstance in the history of cellular phenomena is the duration of existence of a cell. Like the various species of animals and vegetables, each species of cell has its own average term of existence, each after its kind. This average term is nevertheless contingent on the amount of action which each species may, by peculiar circumstances in the organism to which it belongs, be called on to perform. This variability in the average age of each species of cell is dependent on those circumstances which have been named 'nervous agency,' 'peculiarity of constitution,' 'irritability of the parts,' 'morbid action,' but may be studied independently of these agencies. The variableness in the term of existence of cells can no more be explained at present than the variety in the duration of the lives of species of animals and vegetables; but the fact being known, its laws ascertained will afford a clue to the explanation of many organic phenomena and processes.

"In the study of absorption, nutrition, and secretion, attention has been directed to the vessels, as the active agents in the performance of these processes. It is only a short time since we have been willing to

admit that the new matter which is constantly replacing the old materials of the frame is selected and laid down, not by the ultimate vessels, but by the non-vascular portions of the textures. It is only now that we are beginning to know that secretion differs from nutrition in its anatomical relations, and not in its intimate nature. We still, however, retain in full force the old belief in the active absorbent powers of the vessels, and in the agency of the capillary and lymphatic vessels in removing parts and modelling the forms.

"It is not my intention to question entirely the active agency of the veins and lymphatics in absorption and ulceration, but merely to direct attention to the subject; and to point out, in some of the following chapters, a few organic processes in which these actions appear to be functions independent of the vessels, the latter to be passive agents—mere ducts for conveying away the products of action.

"A rapidly extending ulcerated surface appears as if the textures were scooped out by a sharp instrument. The textures are separated from the external medium by a thin film. This film is cellular in its constitution, and so far it is analogous to the epidermis or epithelium. It is a peculiarly endowed cellular layer, which takes up progressively the place of the subjacent textures, these being prepared for dissolution, either by the state of the system, the condition of the part, or by some influence induced by the contiguity of the new formation. Carrying out, therefore, the principles at present regarded as regulating the reciprocal functions of textures and vessels, the subjacent textures disappear in consequence of a disturbance of their own forces, consequent upon the appearance of new forces residing in the cellular layer. The disturbance and gradual annihilation of the natural forces residing in the subjacent textures is indicated by the gradual disappearance of these. That new forces, not formerly existing in the part, are developed, appears from the formation of the cells of the cellular layer. As these appear in rapid succession, and disappear as rapidly, the subjacent textures also disappear, either by previous solution and subsequent absorption by the properties and powers of the former; or under the peculiar circumstances of inflammatory action, by the more vigorous growth of the former, monopolizing the resources of the part, the latter dissolving and disappearing by the usual channels of their returning circulation, more rapidly, but according to ordinary laws.

"From this view of the process, it appears that so far from consisting in a diminution of the formative powers of the part, such a progressive ulceration is actually an increase of it. The apparent diminution is a consequence of the extremely limited duration of existence of the cells of the absorbent layer, which die as rapidly as they are formed, disappearing after dissolution, partly as a discharge from the surface, but principally through the natural channels by which the debris of parts, which have already performed their allotted functions, are taken up into the organism.

"When a portion of dead or dying bone is about to be separated from the living, the process which occurs is essentially the same as that which has now been described. The haversian canals which immediately bound the dead or dying bone, are enlarged contemporaneously with the filling of their cavities with a cellular growth. As this proceeds, contiguous canals are thrown into one another. At last, the dead or dying bone is connected to the living by the cellular mass alone. It is now loose, and

has become so in consequence of the cellular layer which surrounds it presenting a free surface and throwing off pus.

"In this process, the veins and absorbents act on the osseous texture of the walls of the haversian canals in no otherwise than in the natural state of the part. They are mediate, not immediate instruments of absorption. It is the cells of the newly formed cellular mass, contained in the haversian canals, which are the immediate cause of the removal of the bone, either by taking it up as nourishment, and substituting themselves in its stead—the bone being prepared for this absorption in a manner analogous to that which occurs in the digestion of food previously to absorption of it by the cells of the gut\*—or by the active formation of the new substance monopolizing the resources of the part, and so inducing the disappearance of the osseous texture by the natural channels of the returning circulation.

"The process by which a slough in the soft parts is separated from the living textures is similar to that which occurs in bone.

"In this view of ulceration, there is substituted for the hypothetical active or aggressive power of absorption ascribed to the veins and the lymphatics, a power which is known to exist in the organic cell during the progress of its growth; and the ultimate removal of the matter from the scene of action is ascribed, partly to the formation of discharge, partly to the yet unexplained, but at the same time undoubted, and in all probability passive agency of the returning circulation."

J. G.

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*Elements of the Comparative Anatomy of the Vertebrate Animals, designed especially for the Use of Students.* By RUDOLPH WAGNER, M.D., Professor of Comparative Anatomy and Physiology in the University of Göttingen, &c. &c. Edited from the German by ALFRED TULK, Member of the Royal College of Surgeons of England.

*Anatomy of the Sexual Organs in the Vertebrata.*

WE extract part of the section on the sexual organs of the mammalia from Tulk's Translation of the *Elements of the Comparative Anatomy of the Vertebrata*, recently published by Wagner, the distinguished professor of Göttingen, whose name is a sufficient recommendation of the work.

"The sexual organs of the mammalia and the organs of lactation, which must be here considered also, differ very much from those of the other vertebrata. They repeat with certain modifications the human type of formation.

"The *Ovaries* are, as a rule, rounded or oviform bodies, as in man, in which are embedded in a more or less dense fibrous stroma the Graafian follicles. In each of the latter there lies one small ovule (very rarely two), scarcely visible by the naked eye, which includes a germinal vesicle with a single germinal spot. If the stroma is in small quantity, the follicles frequently appear pedunculated, and thus the ovary obtains a more clustered appearance, as is the case in the mole and ornithorynchus.

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\* "Hence, the digestive process, instead of being confined to the stomach and duodenum, is actually carried on without intermission in all parts of a living animal body."—*Prouf's Bridgewater Treatise*, page 534.

"The *Fallopian Tubes* or *Oviducts* usually commence, as in man, by a free opening into the abdominal cavity, and are usually surrounded by a puckered border of folds, forming what are called the fimbriæ. In many carnivora, e. g. canis, felis, phoca, mustela, lutra, the peritoneal covering of the oviducts is continued to the ovary, which it loosely invests, after the manner of the testicle, with a kind of tunica vaginalis. In some animals, as the dog and cat, a small opening remains in this sac, communicating with the abdominal cavity; in others the sac is completely closed, and in these last, what is called extra-uterine or abdominal pregnancy, which sometimes occurs in the human subject, cannot take place.

"The *Uterus* exhibits great varieties. It is simple, *uterus simplex*, and of a triangular, oval, or round form, according with the human type, while the two oviducts enter its cavity at right angles upon either side of the fundus. This is the case principally in the apes and cheiroptera. The uterus is two-horned, *uterus bicornis*, in the ruminantia, pachydermata, solipedia, and cetacea, and in a less degree also in the makis. The body is here prolonged into a pair of thick and crooked cornua, which pass into the very narrow and much-contorted Fallopian tubes. The uterus is called divided, *uterus divisus*, where it has only a very short body, as in most carnivora, edentata, and some rodentia, which speedily divides both externally and internally, and is continuous with the straight or slightly twisted oviducts. The uterus is actually double, *uterus duplex* s. *biforis*, in some of the edentata, and in most rodentia, as the mouse and hare. Each Fallopian tube passes above into an intestiniform uterus, which has two completely distinct openings lying near to each other within the vagina. The structure is still more anomalous in the ornithorynchus; the oviducts are here not completely separated, but each has inferiorly an expansion, like the oviducts of birds, and opens by itself into the cloaca; between the two apertures lies that of the urinary bladder.

"The uterus of the marsupiate is very peculiar, and exhibits in the several genera varieties which, however, are not very remarkable, so that its structure in the kangaroo may serve as an example. The oviducts are at their abdominal extremity surrounded with a folded crown of fimbriæ, and each, very delicate at its commencement, expands into an elongated uterus, in which the small embryos are developed, and attached by a short umbilical cord. Both uteri open into the vagina, which is likewise double, and very peculiarly formed, as it frequently forms a cæcal sac, which is often divided by a septum, into the commencement of which the uteri open. From this arise superiorly the vaginal canals, two handle-shaped and intestiniform membranous tubes, frequently contorted, which coalesce in front of the external sexual opening, or kind of cloaca. Through these the small and still imperfectly developed fœtus unquestionably reaches the exterior, and is conveyed by a process not yet known into the pouch.

"The *Vagina* of the mammalia seldom presents transverse rugæ, but usually slight longitudinal folds. At its termination, frequently also in its middle, but rarely posteriorly, there is often found, as in the horse, the ruminantia, carnivora, and apes, a fold or septum, in one case strong, in another merely rudimentary, which corresponds to the hymen of the human female, but is never so peculiarly developed as in the latter.

"The *Clitoris* appears to be generally present, and occurs also in the monotremata and cetacea. It is usually situated far forwards, consists of cellular tissue, and is provided with a glans and prepuce. It is very much developed in the rodentia, carnivora, and apes, and in them contains not unfre-



quently a cartilage or bone analogous to that of the penis. Thus there is found a small bone in the domestic cat, which is larger in other species of the feline race, and in the otter, bear, marmot, &c., but is apparently frequently wanting in the apes. A clitoris, on the contrary, of unusual size occurs in the spider-monkeys (ateles), being from two to three inches long, and provided with a glans and conspicuous prepuce, upon the under surface of which a groove runs from the orifice of the bladder, along which the urine flows. In the marsupiated, the clitoris is split like the glans of the male, and there project from it two folds forming a groove for the passage of the urine, or as, in the lemming, the makis, and loris, the clitoris is actually perforated, and thus attains the highest grade of analogy with the male penis. The spongy bodies and arteriæ helicinæ are frequently wanting, and the body is filled with fat, so that even in the spider-monkeys it is probably incapable of erection. The preputial glands of the clitoris are occasionally very much developed; and in some carnivora, marsupiated, ruminantia, and rodentia, we also find at the base of the clitoris more or less distinctly developed Cowper's glands, which have been lately proved to exist in the human female. The nymphæ or internal labia are wanting; the external labia are but slightly developed, and consist only of a pair of hairless projections, which bound a mostly rounded vaginal orifice; the mons veneris is wanting. In some mammalia, namely, the horse and ruminantia, we find upon either side of that of the urethra the two orifices of what are called the vaginal canals; which run between the muscular and mucous membrane to the broad ligaments of the uterus, but are sometimes entirely closed; they may probably be regarded as the remains of the excretory ducts of the Wolffian bodies or false kidneys in the fœtus, and thus as a kind of persistent arrest of formation."

## SURGERY.

### *Caustics for Granular Eyelids.*

IN a lecture on granular inflammation of the conjunctiva, by M. Chassaignac reported in the Medical Argus for March 5, 1845,—M. C., after describing the appearances which the eyelids of the patient under consideration presented, and which corresponded exactly to what is usually observed in this affection, says, "In the condition of the eyelid which I have described, I have long since adopted, as a rule of treatment, the application of a caustic in the solid form. The two substances I prefer are a crayon of borax or sulphate of zinc: the action of the last ought to be previously weakened by the admixture of the sulphate of zinc with some inert powder, such, for example, as that of gum-arabic. The borax I employ in its native state, but cut into the form of a long cylinder, with which I slightly touch the granulations. As it is but little soluble, I leave it in contact with the mucous membrane for a few moments, and it has the effect of slightly whitening the surface without producing any scar. The borax acts feebly and slowly, but with certainty. By and by, under its influence, the granulations decrease, and the intolerance of light lessens. In these cases, as in the majority, the *tuto* ought to supersede the *cito*. In these cases, then, borax will be found a useful ally.

"When I wish to use the sulphate of zinc in granular conjunctivitis, I employ it also in the form of a crayon, but mixed with variable proportions of

powdered gum. They are prepared by forming the sulphate of zinc and powdered gum into a paste, which is rolled into the shape of a cylindrical crayon. These crayons are dried, become hardened, and may then be placed in an ordinary port-crayon. With the assistance of this composition, the strength of the caustic may be regulated at will, by varying the proportions of the two substances of which it is composed. This new description of ophthalmic caustic is applied in the same manner as the preceding, and I have derived the best effects from it in several cases of inflammation of the eyelids and the cornea, and particularly in the granular ophthalmia."

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*Removal of a Cancer of the Soft Palate.*

M. BLANDIN exhibited (Academie de Médecine) a patient from whom he had removed the soft palate by means of the ligature. This man had the whole of the soft palate, as far back as the pharynx, attacked with cancer. Luckily there was no engorgement of the cervical ganglia. Recollecting the fortunate results obtained by the ligature as a method of removal, especially in the hands of M. Recamier, M. Blandin thought that this proceeding might be applicable to the present case. He tied the whole of the circumference of the tumour by means of points of suture; the cancer, thus encircled, fell off spontaneously at the end of several days. A small diseased portion remaining, it also was circumscribed by means of a new ligature, which quickly caused it to drop off.

The patient now is completely cured, and one remarkable circumstance to which M. Blandin called the attention of the Academy, is the regularity with which the remains of the mucous membrane of the palate have come into contact as the cicatrix contracted, so as to reconstitute to a certain degree a new soft palate.—*Gazette Médicale*, Jan. 25, 1845.

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*Colon Strangulated by the Meso-Colon.*

Dr GILMAN DAVIS, of Portland, Maine, relates, in the *Boston Medical and Surgical Journal* (Dec. 11, 1844), an interesting case in which fatal strangulation of the colon in an aperture in the meso-colon occurred. The subject of the case was a gentleman, twenty-six years of age, who was attacked on the 13th October 1843 with paroxysms of pain in the epigastric region, without tenderness; but with remarkable tonic rigidity of the abdominal muscles, and constipation. By the use of cathartics, enemata, and opiates, after three days' suffering, evacuations were produced from the bowels, and the other symptoms then yielded.

The patient, except being troubled with constipation, enjoyed moderate health after this until the 5th May 1844, when he experienced an attack similar to the first. There was superadded to the previous symptoms constant vomiting; every thing swallowed was instantly rejected. There was no thirst; the firmest pressure on the abdomen caused no pain; there was extreme restlessness and nervous agitation, and the patient complained that there was a stoppage in the epigastric region, and said he should feel better if he could only have an evacuation from his bowels. Various remedies were employed, without, however, the least benefit; the patient got worse and worse, and died at midday, May 9.

On *post-mortem* examination a large knuckle of intestine, of a deep port wine colour, composed of thirteen inches of the colon, was found stran-

gulated in an aperture about the size of a quarter of a dollar in the meso-colon. From the strangulated intestine to its termination in the anus measured four feet. The strangulated intestine was in a complete state of mortification. The aperture was round with even edges. No reasonable conjecture could be formed as to the cause of its formation.

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*Opium a Hazardous Remedy in Strangulated Hernia.*

THE following cases were related to the New York Medical and Surgical Society, with a view to show the danger of using opium or its preparations when strangulation of a hernia is suspected; the symptoms of strangulation being masked by the medicine, and the operation consequently being deferred until too late to be successful.

Dr BUCK stated that he was called to operate on a lady aged sixty, whose hernia (femoral) had been strangulated two days. She had been put under the influence of tobacco, and an anodyne injection administered, on the first day she was taken ill, which was Sunday. On Monday she was found in a state of profound narcotism. On Tuesday, Dr Buck was called in. The patient then lay in a stupor, and did not appear to suffer. The hernial tumour was large, and its contents were omentum and intestine. The operation was performed the same day, and death ensued thirty-six hours thereafter. On examination, the strangulated portion of intestine was found of a purplish brown colour.

Dr WATSON reported as follows:—A lady, aged sixty-four, a rather small and spare woman, about six weeks before the present attack, was seized with severe and sudden pain in the bowels, which was considered bilious colic. She was treated with very large and repeated doses of opium, which for the time overcame the pain. On Tuesday, May 28, while busying herself about her household duties, she was again taken as before, and the former treatment resorted to. The amount of opium was very great,—some ten or twelve grains per diem for several successive days. The pain was effectually overcome, and the only evidence of a narcotism produced was a pleasant hallucination without sleep, and a tingling or itching sensation over the whole body. She continued under treatment in this way up the evening of May 31, and, as a small swelling had recently been detected in the right groin, and her bowels had not been opened for nearly three days and a half, a consultation was requested. Dr W. now saw her for the first time, about 9 or 10 o'clock at night, and recommended the operation. Some hesitancy existing, Dr Mott also met the other attendants in consultation at midnight. The operation was resolved upon, and was performed by Dr Watson. The hernia was femoral; no fluid existed in the sac.

The protrusion was small, and the parts united by adventitious adhesions, the result of inflammation, probably existing there since her first attack some six weeks before. On the next day the narcotic condition still existed; bowels still constipated, notwithstanding the use of oil and enemata. On June 2, the bowels were freely and spontaneously moved for the first time. After this, all evidence of narcotism subsided, and the case began to promise well. The wound was dressed on the sixth day, and it was then dry, and appeared to have united by the first intention; but in a day or two afterwards it opened and gave issue to a very offensive discharge, which excoriated the surrounding parts. The whole of the pubic

region and the right groin became inflamed, and the discharge for several days appeared to increase in quantity and become more offensive. On the 8th June, a large slough was found lying under the integuments in the bottom of the wound, which was removed. Portions of fæces appeared on the dressings. The wound gradually contracted, and she continued under treatment until July 15, when a truss was applied.

Another instance was mentioned by Dr Watson. The husband of a female aged sixty, objected to the performance of the operation on his wife, and in consequence it was deferred from hour to hour. Sixty drops of laudanum were given to allay irritation, and a consultation called. Croton oil was prescribed to relieve the bowels. At the next meeting the patient was so comfortable and free from pain that the operation was deferred until the next morning, when she was found moribund, being twenty-four hours from the occurrence of the strangulation.—*New York Journal of Medicine*, November 1844.

### MATERIA MEDICA AND DIETETICS.

SINCE the commencement of this Journal, now twelve months ago, we have given in the Periscope accounts of various new proposals in regard to remedial agents, partly under the head of *Materia Medica*, partly under other heads. Various circumstances, however, have prevented us from bestowing so much attention on this department, as well as on some other parts of the Periscope, as entered into our original plan. We design in this number to make some amends for this deficiency by giving a rapid view of the most important of the new remedies, and of the new and unusual uses of old remedies which have been proposed in the course of the last year.

1. *Alkalia: Liquor Potassæ, and Potassæ Carbonas*.—The free use of one or other of these two remedies, along with the ordinary treatment, as combined with colchicum, is advised to prevent the occurrence of heart disease in acute rheumatism. A reasonable and safe proposal, though founded on very speculative grounds; it is well worthy of a trial.—FURNIVALL,—see *Lancet*, 1st June 1844.

2. *Alkaline Treatment of Phthisis*.—See *Northern Journal of Medicine*, vol. i. p. 344.

3. *Ammonia* is recommended in delirium tremens, also the succinate of ammonia.—SCHARN and BRACHET, quoted in *Medico-Chirurgical Review*, July 1844.—Ammonia is undoubtedly a good adjunct to the treatment, but not to be relied on by itself.

4. *Ammonia Aqua Fortior* is recommended in tic douloureux, face-ache, &c., to be applied by means of a hair-pencil to the gums, palate, &c., so as to occasion a profuse discharge of tears and saliva. It is also recommended internally in these affections and toothache, to the extent of 20 or 30 drops in a cupful of thick gruel, to be taken at bedtime or when the paroxysm of pain is severe. The ammonia is to be thoroughly mingled with the gruel, to prevent the irritation of the throat and mouth.—DUCROS, quoted in the *Medico-Chirurgical Review*, and original observations in the *Review*, January 1844.

5. *Ammonia Murias* is recommended by Dr Watson in face-ache imitating toothache and rheumatic affection of the jaw. It is to be given in solution, to the extent of half a drachm three or four times a-day. No success

is to be expected if an amelioration does not follow the first four doses.—See *Provincial Medical Journal*, 28th October 1843.

6. *Ammonia Murias* is recommended for internal use, after the German practice, in the treatment of pleurisy, subacute inflammation of the lungs, congestions of the mucous membranes, old coughs accompanied with gastric derangement, sore throats, enlarged tonsils, relaxation of the uvula, &c. Its use is to be confined to subacute inflammation.—Sir G. LEFEVRE on *Thermal Comfort*.—See *Dublin Journal of Medical Science*, May 1844, p. 370.

7. *Anisodus Luridus*, the same as the *Nicandra Anomala* of Link, a plant belonging to the Solanæ, and allied to the *Atropa Belladonna*, was brought from Nepaul twenty years ago, and now grows freely in our gardens. A tincture of the dried leaves (1 oz. to 8 oz. of spirit), when taken internally to the extent of 15 or 20 drops in twenty-four hours, produces extreme dilatation of the pupil. In some of the patients an amaurosis occurred, which did not go off till the medicine was omitted.—See *Gazette Médicale de Paris*, Nov. 4, 1843; also *London Medical Gazette*, Dec. 1, 1843.

8. *Arsenicum Album*.—The use of arsenic in tic douloureux is confirmed by new evidence by Dr Hunt.—See *Provincial Journal*, April 3, 1844; *British and Foreign Medical Review*, July 1844, &c.; and Dr H.'s work on *Neuralgic Disorders*.

9. *Arsenicum Album*.—Dr Debavy has published a case of peritoneal dropsy cured by arsenic.—See *Edinburgh Medical and Surgical Journal*, July 1844; also *Northern Journal of Medicine*, No. VI.

10. *Atropina* is recommended as a substitute for belladonna, by Mr Cooper, surgeon to the North London Hospital, in cases of cataract and the like. Mr C.'s solution is made of 2 grains of atropine dissolved in a drachm of rectified spirit, to which 7 drachms of distilled water are added. A drop introduced into the eye night and morning keeps up full dilatation of the pupil. We learn from Mr Walker, one of our colleagues in this journal, that his trials of atropine in the Eye Dispensary have shown its superiority in a remarkable degree. Mr J. L. Bullock recommends the substitution of salts of atropine, which are soluble in distilled water.—See *Lancet*, June 8 and 15, 1844.

11. *Belladonna*.—Dr G. Bird recommends belladonna as an efficacious remedy in dysmenorrhœa unaccompanied with organic change, and not attended with shreds in the discharge, the seat of pain being immediately over the uterus. In patients of a pale and chlorotic appearance and leucophlegmatic habit he combines the belladonna with sulphate of zinc; when there are indications of a full habit, with ipecacuan.

R. Extract belladonnæ, gr. v.

Sulph. zinci, gr. xx.

Ft. massa dividenda in pill. xx. æquales. Sign: One to be taken immediately on the accession of pain, and to be repeated every two or three hours till the pain ceases.—When ipecacuan is used instead of the sulphate of zinc, 10 grains are employed, with 5 grains of belladonna, to make 20 pills, to be used as above directed. Dr Waller uses a plaster of belladonna in the same disease. Dr Garrard, instead of ipecacuan, uses colchicum in combination with belladonna, in the dysmenorrhœa of plethoric habits.—See *Lancet*, March 23, 1844.

We have no doubt that belladonna is well adapted both for internal and external use in dysmenorrhœa of an uncomplicated form; the external use

of it is analogous to that of the veratria ointment, which some years ago was reported to have had great success in the hands of several practitioners in the same disease.

12. *Belladonna in Tetanus*.—Dr Hutchison of Nottingham has published two cases of tetanus in which belladonna, in the form of extract, was successfully employed. In one of these cases, 4 grains of the extract were administered every two hours.—See *Lancet*, May 25, 1844.

13. *Benzoin-water*.—This medicine, designed for use against the uric acid diathesis, is composed thus :—

Purified benzoate of potass, biborate of soda, of each 15 grains; bicarbonate of potass, half a drachm; distilled water, 16 ounces. The solution to be prepared under a pressure of  $2\frac{1}{2}$  atmospheres of carbonic acid gas. A large proportion of the gas is retained even after a long exposure to the air.—See *Medico-Chirurgical Review*, April 1844, p. 578.

14. *Coccus Cacti—Cochineal in Hooping-Cough*.—Dr Allnatt recommends the following formula :—Carbonate of potass, a drachm; cochineal, a scruple; boiling water, 8 oz. The dose, a tea-spoonful three times a-day.—Query, Is the carbonate of potass or the cochineal the more active ingredient in this formula?—See *Pharm. Journal*, March 1, 1844.

15. *Creasotum*.—Mascharpa, an Italian medical man, has recommended the use of creasote in burns; it soothes the pain, according to him, and accelerates the progress of the cure. It deserves a trial. He uses it in lotion, made by adding 20 or 30 drops to 2 or 3 ounces of water, and to be applied with pledgets of linen to the injured surface.—See *Medico-Chirurgical Review*, July 1844, p. 219.

16. *Creasotum*.—Dr Tanesville recommends an ointment made of from 10 to 20 drops of creasote to the ounce of lard, to be introduced between the eyelids, evening and morning, in scrofulous ophthalmia and similar diseased states of the eye.—See *Medical Times*, June 22, 1844.

17. *Crotonis Oleum*.—Dr G. Fife of Sunderland has published some cases in which croton oil was successfully used in dropsy. We have no doubt that croton oil is well adapted to such cases as can bear the exhausting effects of treatment by purging, or by purgatives alternated with diuretics.—See *Provincial Medical Journal*, September 25, 1844.

18. *Crotonis Oleum*.—M. Lafargue proposes to remove nævi by inoculation with croton oil. Five or six punctures are to be made around the tumour with a lancet dipped in croton oil. Little boils follow, which unite and form a crust; the scabs separate, and leave a little ulcer easily treated.—See *Provincial Medical Journal*, February 17, 1844.

19. *Digitalis*.—Dr Sharkey, who some time ago published a treatise on the use of foxglove in epilepsy, has published some additional observations on that disease, and on mania combined with epilepsy. We think foxglove a remedy with the whole advantages of which we are not yet acquainted; but we cannot help discouraging the rash trial of it on the great scale, when we remember the undeniable evidence of its occasionally fatal effects, even in medicinal doses. The safest mode, in using digitalis, so as to affect the system fully, is to give it freely for two or three days, and then intermitting it for one, two, or three days, to resort to it again in full dose.—See *Medical Gazette*, December 8, 1843.

20. *Eupatorium Perfoliatum*, Fever Wort or Bone-set.—Dr Peebles has published some observations on the efficacy of an infusion of the leaves of the American fever-wort in influenza.—See *American Journal of Medical Science*, April 1844, p. 364.

We can hardly regard a disease of so brief duration as influenza, in the majority of cases, as well adapted to test the merits of a new remedy. We have no doubt, however, that good effects resulted from the use of this medicine by Dr Peebles. The medical properties of the eupatorium perfoliatum have been known for some time, from the account given of it by Bigelow. He regards it as a tonic stimulant, capable of promoting digestion, strengthening the viscera, and restoring tone to the system; and when employed in larger quantities, of proving emetic, sudorific, and aperient.

The experience of Dr Peebles of the effects of the fever-wort in influenza sufficiently corresponds with Bigelow's account of its therapeutic effects. Dr Peebles found it to answer every indication required in the treatment of influenza. He gave his patients every half hour a wine-glassful of a warm infusion made of an ounce of the dried leaves to a pint of boiling water. "After the fourth or fifth dose, considerable nausea, sometimes vomiting, with free diaphoresis, ensued, and there was an immediate amelioration of all the symptoms. Along with nausea, free expectoration commenced; and after the former symptom had subsided, the patient was freed from every annoyance, and remained in every respect comfortable. Sufficient to keep up the impression on the system, the infusion was now given only every third or fourth hour in the same dose. The bowels were generally opened (by this medicine) in about six hours after the commencement of the treatment, and afterwards continued in a lax condition. \* \* To correct the debilitating effects of the disease, frequently remaining after all its more violent symptoms had subsided, a wine-glassful of the cold infusion was directed three times a-day."—*American Journal of Medical Science*, April 1844, p. 364.

21. *Manganesii Sulphas*.—Mr Alexander Ure, on very speculative grounds, advises the use of sulphate of manganese as a chologogue in torpor of the liver. He gives a case, however, of hepatic derangement, in which the use of this remedy, in moderate doses at intervals during three weeks, restored perfect health. The dose should be one or two drachms. Dr J. Thomson says from half an ounce to an ounce. Mr Ure considers this dose too large.—*Medical Gazette*, November 8, 1844.

22. *Potassæ Liquor in Fatty Deposits*.—Sir Benjamin Brodie mentions a singular effect of the continued use of liquor potassæ, taken in doses of half a drachm to a drachm three times a-day, in diminishing fatty accumulations. He supposes that the alkali unites with the fatty matter, and thus rendering it soluble, permits it to be taken into the course of the circulation. The treatment, to be effectual, must be kept up for a long time.—See *Lancet*, March 16, 1844, p. 816.

23. *Santonicæ Oleum*.—The oil here referred to is called the oleum santonicæ or chenopodii. We presume it is the acrid volatile oil that may be obtained by distillation from the well-known drug incorrectly called worm-seed,—a mixture of the undeveloped flowers, calyces, and peduncles of an unknown species of artimisia, which it appears some have conjectured to come from a species of chenopodium. The worm-seed is an old anthelmintic, and is unquestionably possessed of some efficacy. The male fern, like the santonica or worm-seed, had almost lost all credit with regular practitioners. The male fern has been proved, of late, to contain an oil of singular efficacy at least against the broad tape-worm; and, if Dr Monsarret's observations be well founded, the worm-seed affords its active principle also in the form of an oil, of no less efficacy against the tape-worm as well as against the round worm. He gave from four to eight drops on sugar to children, and

half a drachm to adults. His success appears to have been remarkable.—See *Medical Times*, December 9, 1844.

24. *Secale Cornutum, or Ergot of Rye*.—Mr Liston, in his lectures, mentions a singular case of bleeding, the effect of a gunshot wound in the face, which resisted every means of stopping it till a strong decoction of the ergot of rye was injected into the wound, and among the ethmoid cells. The effect was instant; a clot formed, there was no recurrence of the bleeding, and the case did well. Mr Liston expresses his intention of trying the effect of the oil of ergot as a styptic on the first opportunity.—See *Lancet*, August 31, 1844.

25. *Zinci Chloridum in Lupus or Noli-me-tangere*.—After describing intractable spreading ulceration of the face, Mr Liston says, “This affection, which has been termed lupus, or noli-me-tangere, or herpes exedens, &c., may be at once put a stop to by appropriate treatment. \* \* \* The best application is the chloride of zinc, mixed up dry with an equal quantity of flour, and then moistened by adding a little water to it. It must be mixed up to the consistence of bird-lime, and you may spread it on lint; but the better plan is to put it on a spatula, dip your finger in water, and then lay it on with accuracy round the sore, and then over the whole of it. It subjects the patient to some pain, but that ceases after a time, and the paste becomes elevated at the edges. You then find that an extensive slough has formed, and immediately that separates, instead of the old eating ulcer you have substituted a healthy granulating surface, the part furnishes good matter, and there is soon the commencement of cicatrization all round. This may be done in all stages of the disease; even where the greater part of the features are destroyed, you may in this way check the disease; and where the affection is not so far advanced, you may destroy it altogether, and obtain a healthy cicatrix without much deformity.

“The chloride of zinc used thus is a most active and effectual remedy; but it causes, as might be expected, severe pain for some hours after its application.”—See *Lancet*, September 26, 1844.

The above account of new remedies, and of new or unusual uses of known medicines, drawn, as will be observed, chiefly from British periodicals, is to be regarded as supplemental to our *Periscope of Materia Medica* for the last twelve months, which has been principally taken from foreign journals.

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*On the Euphorbia Maculata.* BY WILLIAM ZOLLICKOFFER, M.D.

(Read before the Royal Medico-Botanical Society of London,  
December 12, 1844.)

WE extract a portion of Dr Zollickoffer's paper; the whole is given in the *Medical Times* of March 8, 1845:—

“This plant is known by the common appellation of ‘creeping milk meek.’ This name it has doubtlessly received from the circumstance of its lying flat upon the ground. It delights in sandy fields and by the roadside. The stem is from four to twelve inches in length, and the flowers appear fasciculate—these are somewhat different on the same stalk, being sometimes white, while others are of a lilac colour. The leaves are not unfrequently spotted, or stained somewhat of a brown tinge. Every part of the plant, on being broken, emits a milky exudation, which very readily becomes concrete upon exposure to the atmosphere—it is in this lactiferous



substance that the slightly narcotic properties of the plant reside ; while in the *same* substance, in the acrid and irritant drastic species of euphorbia, their dangerous or emetic and cathartic powers are to be found.

" In its sensible properties the *maculata* is strikingly analogous to the *hypericifolia*, being only partially sweetish, and considerably astringent to the taste.

" *Solubility*.—Diluted alcohol and water both extract the active properties of the plant ; but the latter is the best menstruum for the solution of its elements of activity, and for its exhibition.

" *Medical Use*.—The slightly narcotic property consociated with the astringent power every part of the euphorbia *maculata* possesses, renders it an invaluable remedy in tranquillizing and controlling the morbid conditions of the intestinal canal, which give rise to cholera infantum, diarrhoea, and dysentery. The native combination of these properties renders it a far more available remedial agent in the successful treatment of certain maladies than one can possibly procure by combining remedies of the same kind. I have used it very extensively and successfully in the *secondary* stages of all these affections, and invite the attention of the members of the profession to its use, from a confident assurance, based upon my own experience of its virtues, that it will be found very happily adapted to the treatment of these diseases ; and more so than kino and catechu and other remedies of an analogous character. In diarrhoea and dysentery I use the following prescription, viz. :—

R. Euphorbiæ maculatæ foliorum exsiccata. ʒj. Infunde in octario aquæ bullientis ; capiat cochlearia magna duo unaquaque hora donec morbi symptomata cessaverunt.—The dose of the above preparation is intended for an adult. In cholera infantum I generally give a teaspoonful every two or three hours, until the violence of the symptoms seems to abate ; then I gradually decrease the quantity, or exhibit it less frequently. I wish it to be *distinctly* observed, that it is *only* in the secondary stages of cholera infantum, diarrhoea, and dysentery, that I have used this plant, from a firm conviction that no good effects could be anticipated from its administration in the primary stages of diseased action, but perhaps injurious consequences, by aggravating the morbid condition of the parts, and thereby greatly increasing the violence of the disease. To render the infusion more palatable to children, although fortunately for so valuable a remedy it is not at all unpleasant to the taste, I generally direct the quantity given to be combined with the same proportion of water, sweetened with loaf sugar.

" In morbid discharges arising from constitutional debility, or relaxation of the affected parts, the infusion and decoction of the euphorbia *maculata* will be found peculiarly beneficial. To derive benefit from their exhibition, they should be given only three times in twenty-four hours, and continued for eight or ten days, or longer if necessary."

## PATHOLOGY AND PRACTICE OF MEDICINE.

### *Treatment of Chronic Bronchitis and Chronic Pneumonia.*

WE quote the following chapter from Dr Marshall Hall's "Observations and Suggestions in Medicine," reviewed in our April number :—

"Bronchitis, pneumonia, pleuritis, from being repeated, neglected, or mismanaged, may issue in a chronic affection within the chest, inducing troublesome cough, dyspnoea, &c. &c. The question to be discussed in this chapter is, what is the best mode of treatment of such affections !

"It is plain that this treatment, to be effectual, must be chronic too, like the ailment itself.

"I had a little patient who was affected with violent pertussis, influenza, and repeated attacks of bronchitis, in succession. Chronic bronchitis was the result. For three whole years, a sharp liniment was applied over the back and front parts of the thorax, night and morning, without intermission. The result was that the chronic bronchitis was effectually cured.

"This case may afford an example of the kind of steady perseverance that may be required in such cases. But I proceed to state the plan of treatment more in detail.

"The first thing is to keep up a steady counter-irritation over the chest. This may be done by liniments, or by sinapisms (of which the best form is mustard, sprinkled on flannel wrung out of hot water, and covered with thin muslin), or the two alternately, which I believe to be better than either alone.

"The second thing to be accomplished is to exclude the influence of the oxygen, dryness, and temperature of the atmospheric air, on the *external* surface of the thorax. To accomplish this object, oleaginous liniments may be used; but what is far better, is an ample adhesive plaster, fitting the whole surface of the chest. This may be removed, to apply the liniment or sinapism, and be reapplied; or the former remedies may be suspended for a time, to admit of wearing the plaster, and may be resumed when it is thought that this has had a fair trial. These plans may be varied with the season.

"The chest is to be defended from inclement temperature by a flannel, silk, or leather waistcoat.

"Not only the chest, but the face and the general surface of the body should be defended. Now the best *respirator*, the best protection to the face, throat, and chest, is—a *brown crape veil*. This may be used as a shawl in general, and be thrown over the head and face on occasions of exposure. The general surface should be protected by flannel; the feet should be kept guardedly warm and dry.

"But the important part of the treatment is that to be pursued during the night. I have frequently found the following plan of extreme value: a sort of mosquito net is formed of muslin; this is made to pass over and enclose a chair, on which is placed a large jar nearly full of water, at 180° Fahr.; and under the same net the patient sleeps. During the whole of the night, he inhales a warm and genial vapour, whilst his face is exposed to it, and the whole surface is influenced by it. A state of the skin and of the air-tubes and cells is induced which is very favourable to the cure of chronic inflammation within the chest.

"The success of this plan in chronic bronchitis, pneumonia, and pleuritis, has been most gratifying.

"The plan must be long continued. During the winter, and during the prevalence of the north-east winds, the patient should occupy a room warmed by an Arnott's stove. I have known a patient who would cough excessively during the whole night, in an ordinary bed-room, sleep undisturbed in a drawing-room supplied with such a stove.

"In pneumonia, cupping and setons over the solid part of the lung should be added to the other measures."

We quote also the following chapter from the same work:—

*On the Treatment of Atrophy of Paralytic Limbs.* By WILLIAM FREDERICK BARLOW, Esq.

"THE condition of paralytic limbs is too much neglected. The atrophy they so commonly undergo is a very serious occurrence; and yet nothing is done for it. The cause of that atrophy, every one knows, is want of the exercise of their muscles; and yet no one, as far as I am aware, has proposed that *involuntary* contractions should be excited in them *with a view to their nutrition*.

"I would suggest, in order that atrophied or wasted limbs, which are deprived of the influence of the will, may be duly nourished, that galvanism be used, at intervals more or less lengthened as circumstances indicate, or tickling, friction, and temperature be employed, if these be found to occasion reflex actions.

"I do not mention strychnia, that peculiar and powerful excitant of muscular action; for this would often be objectionable, from exciting both the nervous and circulating systems where these should be kept tranquil; whereas means are required to produce a local effect, and that simply."

#### MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

*Employment of the Recent Juice of the "Urtica Dioica" in Uterine Hemorrhage.* By M. GINESTET.

A GIRL æt. between thirteen and fourteen years, in the habitual enjoyment of good health, and of a robust constitution, menstruated for the first time about the end of February. The catamenia continued to appear regularly until May, when, in consequence of agitation concerning domestic affairs, uterine hemorrhage supervened, which lasted for two months and a half without intermission, in spite of the assiduous attention of an intelligent physician. At the end of this time she was in a state of extreme exhaustion, and all the usual means had been tried in vain. The recently expressed juice of the *urtica dioica* was then exhibited, in doses of half a wine glassful twice daily. From this time, with scarce any other treatment, the patient gradually recovered, and in the course of a month was completely restored to health. The author considers that by this case he has established the hemostatic properties of the plant. He tried its exhibition in leucorrhœa, but without any benefit. He recommends the application of a drop of the juice to leech-bites when the bleeding from them is to be restrained.—*Bulletin de l'Acad. Roy. de Médecine, Février 1845.*

M. HAMEL on the Obesity or Fatty Condition of the Umbilical Cord.

THE description of the anatomical characters of this disease are extremely brief in the report on M. H.'s paper from which we quote. We are merely told that the cellular tissue of the cord becomes too fat, thus compressing the vessels and destroying the fœtus. M. H. believes that this cause of fœtal death occurs most frequently in those females who, during pregnancy, enjoy unusual health, who pass quickly from leanness to *embonpoint*, who live on succulent meats, take little exercise, and whose blood is rich and surcharged with nutritive matter. The author then gives what he considers as the diagnostic marks of this intra-uterine disease; but it is evident that, as signs of obesity of the cord, he enumerates the indications of the death of the fœtus. He proposes to prevent this disease of the umbilical cord by half-starving the mother.—*Bulletin de l'Acad. de Médecine, Février 1845.*

*NAEGELE & MARTIN on the Obliquely Contracted Pelvis.*

NAEGELE affirms that this deformity of the pelvis does not depend on any external accident nor internal disease, but that it is consequent on original malconformation. Martin, in his treatise published at Jena, asserts that the deformity arises from the sacro-iliac synchondrosis being at an early age affected with inflammation, which terminates in ankylosis, and that the neighbouring parts become indurated owing to this inflammation. By this induration, the foramina through which the nutritive vessels run to the bone are diminished, and hence follow the slow growth and dwarfish development of the sacrum and os innominatum; hence also the other deformities of this variety of misshapen pelvis.\*

*Removal of Uterine Polypi by Torsion.*

M. MAYOR recommends this as the only method that ought to be used, viz. : to take hold of the polypus, turn it a few times round on its own axis, and it is very readily separated. In confirmation of this he gives two cases. In each the polypus was as large as a foetal head; in the second case it was so large as to require the application of the forceps, and during its removal caused laceration of the perineum. In neither instance was there any hemorrhage. In the first case, the patient left the hospital, perfectly recovered, in twelve days, and in the second in eight days, having been well enough to rise from bed on the third.—*Gazette Méd. de Paris*, No. 33, 1844.

*Iodide of Potassium in Hydrocephalus.*

DR WÖNIGER of Hamburg gives the case of a boy æt. two years, who was seized with the symptoms of inflammation in the brain. The treatment usual in such cases was applied until the fifth day, when he presented all the signs of effusion into the ventricles. Forty drops of a solution of potass. iodid. ʒj. in half an ounce of water was given every second hour; the following day the dose was increased to fifty drops. On the fourth day after commencing this medicine a remarkable remission of the more urgent symptoms took place, with copious excretion of urine. Three days thereafter the patient was out of danger.—*Oppenheim's Zeitschr.*, No. 2, 1844.

## FORENSIC MEDICINE AND MEDICAL POLICE.

*On the Use of Metallic Zinc for various Domestic Purposes.*

By DR STEUDNER.

THE author affirms that of all metallic bodies, the alkalies and earths excepted, there is none which is so easily dissolved as zinc. Water, diluted acids, solutions of alkalies and neutral salts, all exercise a dissolving power on this metal. It ought never, therefore, to be used for pipes or cisterns for the conveying or holding of water, nor for vessels in which articles of food are to be prepared or kept. As it is well known that when a small piece of zinc is soldered on to a surface of copper, tin, or steel, the oxidation and solution of these metals is prevented, cooking vessels made of these metals, with a rim of zinc, are frequently used in Germany; the author

\* We have not thought it necessary to define what is meant by the "obliquely contracted pelvis," as it may be learned by reference to obstetric text-books.—Vide *Campbell's Midwifery*.

observes that this merely changes one poison for another, as, although in this way the copper is protected from being acted upon, still the solution of the zinc is not prevented. Dr S. admits that zinc vessels may be used for holding and preparing articles of food which contain albumen and casein, provided there be no great excess of acid, and that the substances be not too long exposed to heat. The author takes the opportunity to recommend, in cases of poisoning with sulphate of zinc, a mixture of carb. magnes. and albumen, as they form an inert compound with the salt. It is the custom in the south of Germany to procure the cream from milk by treating it in zinc vessels, as it has been observed by experience that when basins made of this metal are used a larger quantity of richer cream is obtained from the same quantity of milk. This circumstance Dr S. explains thus: the casein, which prevents the separation of the oily matters from the milk, combines with the lactate of zinc formed by the action of the elements of the milk on the oxidized surface of the metal; the quantity of casein in the milk being thus greatly diminished, the separation of the cream is promoted. The writer also warns keepers of baths from using zinc tubs if the water employed contain much carbonic acid; metallic tubs of this description ought only to be employed where the water is sulphureous. As in this country the custom of covering the roofs of houses with zinc instead of lead, on account of its greater cheapness and durability, has lately come somewhat into vogue, caution ought to be used in applying water collected from the roofs of such houses, or brought through pipes of this metal, for the preparation of food.—*Casper's Wochensch.*, No. 38, 1844.

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*Toxicological Properties of Sulphate of Quinine.* By M. DESIDERIO.

M. D. has made numerous observations on the properties of this salt, both by experiments on the lower animals and at the bedside of the sick. The poisonous effects observed in the lower animals are similar to those which take place in man; these are drowsiness, difficulty of maintaining the erect position, obscured vision, drooping of the eyelids, &c.; in short, sulphate of quinine produces symptoms analogous to those caused by an alcoholic solution of the acetate of morphia. This latter substance, when given along with the quinine, increases the intensity of the symptoms. The distilled water of the cherry laurel, on the contrary, dissipates the symptoms, and may to a certain extent be regarded as an antidote. Venesection and the exhibition of the powder of the digitalis purpurea have each individually proved beneficial.—*Archives Gén. de Méd.*, Mars 1845, p. 373.

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*Colic in Copper Works.*

M. BLANDET, in a memoir which he has published on this subject, believes that he has established, that although this disease is very rare in the hospitals, it is very common among the workmen, and that they are attacked with it almost without exception. This affection is slight, and in most cases without fever; it is characterized by an excess of colic pains, with extreme prostration. The bowels are not always slow to move; there is sometimes constipation, at other times diarrhœa. The disease lasts on an average about forty-eight hours. Its most frequent cause is want of cleanliness on the part of the workmen, but more especially the inhalation of copper dust. Milk is much used among the workers as a preservative against the colic.—*Archives Gén. de Méd.*, Mars 1845, p. 375.

*Poisonous Effects of Zinc.*

IN copper foundries, every smelter, says M. Blandet, suffers on the afternoon of the melting days, or the day following them, from certain disagreeable sensations which have not been as yet noticed in any work. Of these the principal are languor, muscular pains, oppression, headache, vomiting, rigors which last for three or four hours and then terminate in copious perspiration, with a febrile reaction. These accidents appear to be the effect of a species of intoxication caused by the zinc, which enters largely into the composition of bronze, brass, &c. The high temperature to which the mixtures which form these alloys are submitted in order to bring them to a state of fusion, explains why these effects show themselves in the copper foundries, and are not constantly observed in zinc works, in which so high a temperature is not necessary for the fusion of the metal. The vapours of the zinc carrying with them a small proportion of copper, are oxidated on exposure to the air, fill the workshop, and are deposited on the walls; in this way the minutely divided oxide is inhaled. The effects of the zinc are rarely prolonged above twenty-four or forty-eight hours. The use of diaphoretics and purgatives appears to hasten the disappearance of the disagreeable symptoms; hot wine and tea are much used among the workmen for the same purpose.—*Archives Gén. de Méd., Mars 1845*, p. 375.

*Concealed Pregnancy and Delivery, with Suspected Child-Murder.*

ALL that remained of the body of the child in this case was one or two convolutions of the small intestines filled with meconium; the remainder of the body had been devoured by a dog. The statement of the prisoner was as follows:—That she had had connexion with one of her father's servants once only about seven months previous to her delivery; that she menstruated once sparingly after connexion; that at one A.M. she was seized with labour pains, and delivered in about an hour thereafter of a child, which appeared small and premature; that she divided and tied the cord, and hid the body in the straw of the bed; that during the following day she went about her work in the house and the field as usual; that at two P.M. the placenta came away about the size of the fist, and that she then buried the child. Among other questions raised by this case, it was asked whether, from the appearance of the intestines presented for examination, and from an inspection of the mother, any inference could be deduced with regard to the truth of her statement as to the immaturity and non-vitality of the child? To this the following answer was given:—The only portion of the child presented for inspection is a piece of the small intestine about ten inches long; the mucous membrane is already putrid; the smooth white thin and almost transparent appearance of the muscular coat, the thinness of the serous tunic, the absence of fat in the mesentery, and the distention of the intestine with meconium, give tolerably strong grounds for the belief that the foetus was only of seven or eight months' gestation. This supposition is strengthened by the very trifling relaxation of the maternal genitals; the very slight marks of delivery; by the distention of the abdomen not having been sufficient to be observed by others; and by the delivery having been almost without pain. It is not probable that the child was born alive, but this fact cannot be ascertained with certainty. The presumption is, that the mother did not wish the child to die, as she tied the cord.—*Henke's Zeitschrift für die Staatsarzneikunde*. No. vii., 1844.

*Rupture of the Spleen.*

A ROBUST man, about forty years old, was engaged in a scuffle with another of the same size, and received one blow from the fist of his opponent in the left hypochondriac region; the combatants then clenched each other, and so equal were their exertions for five or ten minutes, that it seemed doubtful which would come off victor; at length, however, the strength of J. W. seemed suddenly to fail. He turned pale, staggered, and sunk helpless upon the ground, complaining of nausea, faintness, and pain in the left side. He was carried, in a sinking condition, a short distance to a house, where he expired, in about fifteen minutes after the termination of the conflict.

On dissection, twenty-four hours after death, no marks of violence were observed on the exterior. The cavity of the pericardium contained about two ounces of effused serum. In other respects, the contents of the thorax appeared natural. But upon cutting through the abdominal parietes, exit was given to between two and three quarts of dark partially coagulated blood. An extended incision brought into view the spleen, enlarged to about five times its natural dimensions, and so soft in texture as to be easily broken down under slight pressure from a finger. Upon its posterior surface was a lacerated fissure of about five inches in length, extending deep into the centre of the organ. It was evidently from the divided blood-vessels of this torn structure that internal hemorrhage had taken place to such an extent as to cause immediate death.

The coroner's verdict was as follows:—Death from lacerated diseased spleen, caused by a blow, fall, or over-exertion, while engaged in a scuffle with B. R." B. R. was tried for manslaughter and acquitted by the circuit court.—*Dr Herrick, in Illinois Medical Journal.*

A case very similar, in its leading particulars, is given in the American Journal of Medical Science, 1st series, vol. vii. p. 549, from Rust's Magazine.

## PART IV.—MEDICAL MEMORANDA.

### *Proceedings of the Medico-Chirurgical Society of Edinburgh.*

(From the Minutes of the Society.)

DR GAIRDNER, President, in the Chair.

*Wednesday 22d January 1845.*

1. DR ANDREW read the following case of poisoning by corrosive sublimate:—

A woman, aged sixty-five, by occupation a washerwoman, was admitted into the Royal Infirmary on the night of Saturday the 28th September, at half-past eleven o'clock, in consequence of having drank some whisky, which, unknown to her, contained a solution of bichloride of mercury. The following is the history of the case:—She had been washing during the day in the house of an artizan, with whose family she took her tea between four and five in the afternoon, and at ten o'clock P. M., having finished her work, was offered a dram by the mistress of the house, who, at the same time, produced a six-ounce bottle full of spirits, from a press in the room, one-half of which she poured into a cup and gave to the woman, who swallowed it at one draught. No sooner, however, had she swallowed the spirits, than she became sensible of a peculiar and most disagreeable taste in her mouth, shortly succeeded by nausea and vomiting. The appearance of the matter

vomited was not known, but the quantity was stated not to be great. Shortly after this she began to suffer acutely from a burning heat in the throat and stomach, particularly the former. An emetic was procured, which she took, as also some warm water, which produced vomiting, but no relief; the foregoing symptoms continuing to increase, and a sense of abdominal distention being much complained of. At half-past eleven P.M. she was brought to the Infirmary, and one of the persons who accompanied her told the clerk (Mr Logan) that he was a lodger in the house where the accident happened; that the bottle of spirits was his property, and that it contained a solution of bichloride of mercury, which he was in the habit of using for the cure of a syphilitic affection. On this he was desired to bring the bottle and the residue of the spirits to the hospital. This he did the following morning, and the same was afterwards submitted to Dr Douglas MacLagan for analysis. On admission to the hospital, she complained of great weakness and exhaustion, a severe burning pain in the throat, with difficulty of swallowing, pain of epigastrium, abdominal distention, and much tenderness on pressure, retching, and vomiting. Pulse small, frequent, and irregular, countenance pale and anxious, fauces much inflamed, tongue and tonsils a good deal swollen, and a great and general coldness pervaded the body. The albumen of ten eggs was immediately administered, soon after which the vomiting ceased, and the pain of the epigastrium began to subside, and on being put to bed, additional blankets, sinapisms, and hot water were ordered for her. At seven A.M. of the 29th, severe pain of stomach came on, accompanied by purging, bloody stools, and much thirst, but no vomiting; the pain of the throat was not so severe, and there was much less difficulty in swallowing. Pulse ninety-two, and feeble; tongue white, and countenance rather flushed; eighteen leeches were applied to the epigastrium, a sinapism to the lower part of the abdomen, and sweet milk *ad libitum* for a drink. These measures afforded her great relief.—30th. Feels better, but the bloody stools still continue. The urine is, and has been all along, freely secreted; the pain has left the epigastrium, but is much complained of in the rectum; the gums begin to feel sore; pulse 88. A dose of castor oil, and leeches to the perinæum, were ordered, and also beef-tea in addition to the milk. From this time there was no return of pain, either in the epigastrium or rectum, and the bloody stools ceased. The gums became spongy and teeth loose, but the symptoms of salivation soon went off. On the 6th of October, although very weak, she was so importunate to get home that her discharge was signed. Dr Andrew saw her several times after this, and learnt that for about three weeks she continued weakly and unfit to work, but after that regained her strength, and is now as well as before the accident happened. The result of the analysis of the whisky by Dr Douglas MacLagan showed that each fluid ounce of the spirit contained exactly 16·3 grains of corrosive sublimate, and that consequently the woman must have swallowed at least 40 grains of that poison.\*

2. Case of Evulsion of the Left Arm and Scapula. By ALEXANDER KING, M.D., Secretary of the Medico-Chirurgical Society of Glasgow. Communicated by the Secretary.

The patient in this case was a stout boy aged fifteen, whose left arm got entangled between the wheels of a grain mill, and was torn completely

\* This case is reported at length in the London and Edinburgh Journal of Medical Science for March.



off. He fainted immediately after the accident, but soon recovered sufficiently to be carried home, a distance of half a mile. No blood flowed from the wound at the time, and the whole quantity lost did not exceed two tea-cupfuls. The wound left by the accident extended from an inch from the sternal extremity of the clavicle to the right side of the upper portion of the dorsal vertebræ posteriorly. The axillary artery projected two inches and a half from the wound, and pulsated strongly to within an inch of the orifice, but gave exit to no blood. Its external coat was divided into three irregular pieces, which encircled each other, and held a small coagulum in their embrace. The artery was secured by a ligature, and the ragged edges of the wound approximated by adhesive plaster. Very trifling reaction followed, the wound granulated kindly, except a portion of the skin, and the mass of the end of the nerves, which sloughed. Touching the latter caused great terror to the patient. The recovery was complete in about six weeks. Dr King, in remarking on the case, called attention to the comparatively trifling amount of shock, and the absence of hemorrhage, and quoted the experiments of Jones, and others, on the part which the laceration of the internal coats of the artery plays in preventing bleeding.

With respect to the treatment, he suggested the propriety, in similar cases, of cutting short the nerves, so as to save the pain and danger from their being left so much exposed as in the present case.

3. DR WATSON communicated to the Society his Observations on the Formation of Bone by the Periosteum.

Dr W. stated, that from the very opposite opinions entertained upon this subject, he thought it worthy of farther investigation; and having selected some cases for this purpose, he would communicate to the Society the result of his observations.

This was not now a question as to the formation of new bone in cases of necrosis only; the question now was, whether or not the periosteum *had the power to produce new bone*. For one party were of opinion that new bone was formed by the periosteum; while the other, in contradicting their opinion, stated that bone *only* produced bone; and Professor Müller of Berlin says, that it was now a barbarism to suppose that the periosteum produced new bone; for having no such function, it possessed no such power.

The first part of Dr Watson's inquiry had been to ascertain whether or not, in cases of necrosis, portions, in the form of minute scales of the old bone, separated from it, remained attached to the periosteum, as had been alleged, retained their vitality, and became the nuclei upon which the new bone was formed.

In a case of acute necrosis, where Dr W. had made a very minute examination of the parts, he could not discover any process of this kind, though new bone had been formed in the substance of the periosteum.

In two cases of fracture, Dr W. examined very carefully the periosteum; in one case six weeks, and the other four months after the injury. In both of these cases Dr W. found that the periosteum became gradually thickened as it approached the fracture, and contained at first numerous osseous points. These increased in number and size toward the fracture, till they, by coalescing, formed masses of new bone. The result of his observations, therefore, had been, that the periosteum formed new bone in cases of necrosis and fracture, in its substance, without any assistance or dependence on the old bone.

In further illustration of this, Dr W. mentioned, that he had seen three cases in the Pathological Museum at Vienna, where portions of the skull

had been removed by fracture, and where the apertures had been not only occupied by periosteal membrane, but in one case (of which he exhibited a drawing) a portion of new bone had been formed in the centre of this membrane, as well as other portions shooting out from the margin of the old bone.

Dr W. illustrated his observations by preparations from the cases he had examined, some of which were shown under the microscope.

#### 4. "Medical News."

Dr Watson informed the Society of the case of a young woman, a patient of a friend of his in the country, who had an aperture from the stomach externally. After having severe dyspeptic symptoms for two years, this opening burst externally four months ago, and continued to give exit to fluid and solid food after eating.

It was gradually contracting, and the patient was apparently getting well.

*Wednesday, 5th February 1845.*

DR GAIRDNER, President, in the Chair.

1. Dr Newbigging read an account of a case of Tetanus in which recovery took place.\*

The subject was a baker, who had been much exposed to cold while in a state of profuse perspiration, which Dr Newbigging considered to be the cause of the malady, united to the previous condition of the patient, which seemed to have predisposed him to such an attack. The symptoms detailed were extremely well marked, commencing with great difficulty in fully opening the mouth, followed by gradual affection of the different muscles of the body.

The duration of the case was about three months, and the patient seemed to get well under the free use of morphia and occasional administration of croton oil. Dr N. made some remarks upon the employment of other remedies, such as Indian hemp, &c., in this disease, but gave a decided preference to the above treatment.

2. Dr Spittal read Observations on the Mechanism and Diagnostic Value of the Friction Vibrations perceived by the Ear and by the Touch in Peritonitis. The following were the principal conclusions of the author:—

That the mechanism by which the friction vibrations are produced are of three kinds, viz.

1st, By the respiratory movements of the diaphragm chiefly; but also by the action of the abdominal muscles. The vibrations being synchronous with these movements, though sometimes only perceived during inspiration.

2d, By artificial movement of the parts by pressure with the hand or otherwise; the vibrations corresponding to the movements produced.

3d, By the peristaltic motion of the intestinal tube; the friction having a peculiar continuous, rustling, creeping character, to the ear and the hand, corresponding to the vermicular motion of the intestines.

That the immediate cause of the vibration is the rubbing together of two peritoneal surfaces physically altered by inflammation, and although the effusion of lymph has been considered necessary for their production, it appears highly probable that at a prior stage of the disease, when the peritoneum is merely drier than usual, friction vibration may take place.

That the amount of motion between the inflamed surfaces, necessary for

\* This case is reported at length in the Northern Journal of Medicine for March.

the production of the friction vibration, is very limited ; and that the different modes of friction as to *rapidity* and degrees of *pressure*, may not only modify the intensity, but also the tone and quality of the vibrations. That the present state of our knowledge does not permit us to connect any particular species of vibration with a certain physical condition of the serous surfaces, although reasonable grounds exist for this expectation. That although the friction vibration cannot be required as evidence of the existence of adhesion between the peritoneal surfaces, it has not been proved that, in the case of partial adhesion, and even when the adhesions are general, provided the effused lymph be recent, soft, extensible, an amount of motion sufficient to produce friction vibrations might not occur.

That the respiratory abdominal friction vibrations are chiefly manifested at the upper part of the abdominal cavity, where the more solid contents are situated, and in the case of a large organic tumour, and may be regarded as indicative of the inflammation having its site over a solid organ or tumour.

That the indications from artificial movements of the parts have been perceived, both over solid organs or tumours and over the intestines.

That the *peristaltic* friction vibrations indicate with *certainly* that the peritoneum investing the corresponding portion of the intestinal tube is the part affected ; and that wherever these peculiar vibrations are very distinctly perceived, they may be regarded as indicative of a lively and free motion of the folds of intestine upon one another and upon the parietes, or that no adhesions exist between them. At all events, that they are not generally adherent, nor matted together into an adherent mass, nor to any great extent adherent to the abdominal parietes.

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We have received a short treatise by Mr W. H. Mortimer on the growth and irregularities of children's teeth, with observations on artificial teeth. The work appears to us to be of merit. We extract a paragraph from it to enable our readers to judge for themselves.

*On the Lancing of Infants' Gums.*

"This is a point on which almost all medical men disagree, and on which dentists are often called upon to give an opinion, and to operate. If I were to refer to public opinion, to form my judgment as to the propriety of performing this operation, I should find that some mothers consider the lives of their children owing to its having been performed, while others equally deplore the bad practice that was adopted in their case, as giving unnecessary pain, and retarding the appearance of the teeth. That they both are right, and both are wrong, is what we shall endeavour to explain.

"Those who have witnessed the convulsions of a child, and the instantaneous relief afforded by this operation, will have some difficulty in not believing it to be infallible ; but, as the most powerful poisons are the most efficacious remedies in the hands of skilful persons, so the lancet is most beneficial when judiciously used, but most pernicious if improperly so. The more easily to understand this, it will be necessary to return to the process of teething.

"I stated, it will be recollected, that the teeth were situated beneath the gums in each jaw, and that it was the pressure of the edge of the tooth on the internal part of the gum that caused the irritation and pain. Now, the depth the tooth has to perforate being considerable, it stands

to reason that if the gums are lanced at the first period of inflammation, they will reclose, and as often as the irritation returns, the operation must be repeated; besides which, the gums will become harder each time they reunite. For although not visible to the eye, a cicatrix is formed, which renders it still more difficult for the tooth to pierce them. The impropriety, therefore, of performing the operation at this period must be evident, and will account for the *bad practice* complained of. But when the teeth are sufficiently advanced, so as to show their presence by a white mark, caused by their pressure on the internal part of the gums;—or when a tooth has partially perforated them, then the lancet may, nay, *ought* to be used without delay; for the gums cannot again completely reclose, and the tooth will come through without giving any more pain.

"In all other cases, the lancet should only be used when all other efforts have failed. But if, notwithstanding all our endeavours, the inflammation and irritation continue, and cause excessive fever—that frequent returns of the convulsions are apprehended, it must then be left to the sagacity of the medical attendant when he ought to lance the gums; and I have only in these cases to recommend that the wound may be as deep as possible, and directly over the teeth that are supposed to cause the pain.

"Relief may always be afforded, at the first period of the irritation, by giving the child something to bite upon. All authors recommend the finger as the best thing, because the child will keep that when it refuses everything else; but the finger cannot always be given, above all, when some of the teeth have already pierced the gums. A piece of *Indian rubber*, formed like a finger, is, without exception, the safest and most beneficial; since, from its elastic nature, it cannot harden the gums nor splinter the teeth, which coral, ivory, and gold are apt to do; and yet it is sufficiently hard to answer the proposed end. When the child has made its gums sore from biting it—for, finding nothing hard to hurt it, it will bite with all its might—the Indian rubber may be dipped in a little honey and water, which will soothe the gums, and be agreeable to the child. In cold weather it will be necessary to dip the Indian rubber in warm water, or hold it before the fire for a short time, for the cold hardens it, but warmth will instantly restore its elasticity."\*

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Mr South of St Thomas's Hospital is engaged in publishing a translation of the *Hand-book of Chelius* to his *Lectures on Surgery*. The original work has reached a sixth edition. The translation is to consist of twelve monthly parts at three shillings each, so as to form when completed two octavo volumes. We have received the first number, and find that Mr South is not likely to spare himself in the office of translator and editor; for in this first number the annotations can hardly be inferior in extent to the text. We quote the following passage on an interesting subject from the additions made by Mr South.

"Here must also be mentioned that mortification of the cheek which has been called *Noma* by Vogel. It is fortunately not frequent, as it is a horrible and generally fatal disease. With a single exception, of the half dozen cases I have seen, all were children under four or three years old; some idiopathic, and others originating in a sloughing of the

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\* "Since the above was written, I find that Indian rubber rings have in a great measure superseded the use of those made of ivory and coral. It is to be hoped that these latter will soon be entirely exploded."

mucous membrane of the mouth, under the careless use of mercurials; and, though generally in unhealthy subjects, yet the disease also occurred in robust, well-fed children. In its idiopathic form it has been well described by Drs Evanson and Maunsell as follows:—A particular form of gangrene of the mouth, without any preceding inflammation, occasionally attacks infants, especially such as are feeble at birth, or broken down by disease. An œdematous circumscribed swelling appears on the cheek, with a central point, more or less hard, over which occurs a dark-red spot. This spot may appear on the inside or outside of the cheek; and the skin over the œdematous part is characterized by an oily appearance. An eschar forms from within outwards on the central point, and the soft parts mortify, often extensively, down to the bone, so that the parietes of the cheeks and gums are destroyed, falling off in shreds, mixed with a dark sanguineous fluid, and accompanied by a very fetid odour. (P. 214.) In neither of my cases, excepting the adult, did I witness the beginning of the disease; but gangrene, to a greater or less extent, of one cheek, involving generally the corresponding half of the upper lip, existed when the children were brought to me. The surrounding parts were tumid, hard, and of dull yellow-white hue, very similar to the characteristic colour of the countenance of patients under malignant disease. I have little doubt that the mortification of the mouth and fauces after measles, mentioned by Huxam,\* as well as those referred to by Marshall Hall,† and by him stated to have happened after previous disorder of the digestive organs, typhus fever, or some inflammatory disease, are of precisely the same character as those resulting from mercurial influence. The little patient, if not already in a typhoid state, soon falls into it, rapidly sinks as the gangrene spreads, and quickly dies; often, indeed, before the least attempt at separation of the slough has been made. Usually three or four days are sufficient to destroy life; but, in one instance, I recollect a child of two years old having lived for a fortnight, and the greater part of the gangrenous cheek had separated, leaving one side of the cavity of the mouth completely exposed. I fully agree with Evanson and Maunsell, that “no disease can be more frightful or formidable than sloughing of the mouth in children. Recovery seems impossible when once the disease has set severely in, the child sinking beneath the constitutional disturbance, independent of the local ravages of the disorder, which, however, are often such as to render recovery not to be desired, so frightful is the deformity necessarily entailed.”‡—P. 215.

“The term *cancrum oris* has been loosely applied both to the disease just mentioned, and also to another form of mortification commencing with ulceration, generally first in the gums, and thence spreading to the lips and cheeks. This second form alone is considered by Dr Cumming§ to be *cancrum*. He describes it as being either acute or chronic, and, if the former, more liable to be accompanied with sloughing; but the ulcerative process predominates, and by it, principally, the destruction is effected. It does not, according to this writer, attack children at the breast, nor under eighteen months, but occurs between twenty months and seven years.”

\* Reports, July 1745.

† On a peculiar Species of Gangrenous Ulcer which affects the Face in Children; in Edinburgh Medical and Surgical Journal, vol. xv. p. 547.

‡ A Practical Treatise on the Management and Diseases of Children. 2d. Edit. Dublin, 1838. 8vo.

§ Dublin Hospital Reports, vol. iv. p. 18.

*Extraordinary Effects of a Stroke of Lightning.* By JOHN LE CONTE, M.D., of Savannah, Georgia.—(*New York Journal of Medicine*, Nov. 1844.)

FIVE negroes were simultaneously prostrated by a single stroke of lightning on a plantation in Georgia. The sun was shining brilliantly at the time, and a greater portion of the visible hemisphere presented the usual serenity of the summer sky. A singular and rather angry-looking cloud had, for a short time previously, been observed near the verge of the south-eastern horizon, from which occasionally proceeded the low rumblings of very distant thunder. Suddenly the whole atmosphere was illumined by a flash, succeeded by a single report, and the cloud quickly dispersed, precipitating a little rain. The five negroes were all taken up in a state of apparent death, and three of them were quite dead. \* \* \*

Of the other two, Charlotte, an adult woman aged twenty-nine years, was standing half-way between cases 2 and 3, and, consequently, about five feet from the root of the tree. After remaining in a state of insensibility for some time, she gradually recovered her consciousness. A dose of castor-oil was then administered. The skin on her right shoulder was abraded for a space as large as a dollar. Her clothes were rent into shreds; on the right side of her body, the skin was blistered and marked with discoloured streaks, which extended anteriorly on the lower portion of the abdomen towards the pubes. A small streak likewise extended along the interior aspect of the right arm. She complained of pain in the stomach and bowels for *three weeks*. No vomiting or burning in the hands and feet, as was experienced in the next case. She has been married several years, but has never been pregnant. Her *menstruation* was perfectly *regular* prior to the reception of the shock; but has *since that time* been very *irregular*; sometimes having *two periods* per month, and then escaping *two months*. The flow has also been much diminished in *quantity*. Her health has not been very good since she was struck; manifestly resulting from her menstrual irregularity. A recent copious bleeding has afforded her evident and immediate relief. Her reproductive functions appear to continue dormant.

Sarah, a woman aged at least seventy years, was standing immediately beside the last. She likewise gradually recovered her consciousness. No medicine was administered. Her clothes were rent; and after a few days, marks of discoloration were manifested along the right arm and right side of the trunk. A violent paroxysm of vomiting followed the restoration to a state of sensibility, which continued, with occasional interruptions, for ten or twelve hours. As in the preceding case, she complained very much of pain in the region of the stomach and bowels for at least two weeks after the accident. A troublesome sensation of *burning* was experienced in the palms of her hands and the soles of her feet; and in the course of two or three weeks a swelling made its appearance under the right foot, which ultimately resulted in the exfoliation of a portion of the thick indurated epidermis of that part, about one inch and a half in diameter.

The *catamenial discharge*, which had, in accordance with the ordinary arrangement of nature, ceased for more than twenty years, was *completely and thus far permanently re-established!!* At least, a discharge from the genital organs, having all the obvious and sensible physical characters of the *catamenia*, and observing, with rigorous exactitude, its peculiar law of periodicity, has been established, and continues to recur with the utmost regularity up to the present time (Aug. 1844), after the lapse of more than a year! She has not missed a single menstrual period since she was struck by lightning. To use a liberal paraphrase of her own language, her

"Moons return as regularly as when she was a young woman." The flow comes on with the usual premonitory symptoms. Her *mammæ* have undergone an obvious *preternatural enlargement*, apparently originating in a sympathetic irritation emanating from the establishment of the reproductive functions. This woman has had but one child, to which she gave birth soon after reaching womanhood. The catamenial flux is represented to have been regular up to the period of its natural cessation, between forty-five and fifty years of age; subsequent to which epoch she has presented all the appearances ordinarily attending the gradual approach of the state of senility in a vigorous constitution. The electrical shock likewise completely relieved her of a troublesome *strangury* which had harassed her for four or five years. Very recently she has occasionally had a slight recurrence of the same complaint, although under a much milder form. Otherwise, her health continues perfectly good; there being, so far as symptoms show, not the slightest indication of the supervention of organic disease of the uterus.

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WE have received a communication from Dr Tait in reference to some statements in our last number, contained in the memoir on the Statistics of the Edinburgh Lock Hospital. The first statement referred to by Dr Tait bears that Dr Tait made "some inaccuracy in his calculations in stating, that during a period of five years, of 1000 patients admitted into the hospital, 42 were *under* the age of fifteen. It will be seen by a reference to the foregoing table, that, including the infants just noticed, the total number of patients *under* fifteen years, out of 2429, was only 38."\* Dr Tait, on this statement, remarks, "had the authors examined my table a little more carefully, they might easily have seen that all who had reached fifteen years, and not exceeded it, were included in that number. The words, as they stand in my table, are apt to mislead a careless observer, but the whole table, as it stands, would not support the inference which has been drawn from it."—Quoted from Dr Tait's letter to us.

We have inspected the table in Dr Tait's work, and find that the number of cases *under* fifteen years of age is distinctly set down as 42 in the 1000, so that the authors of the memoir in question cannot be charged with carelessness in the perusal of it; the only circumstance from which it could be inferred that Dr Tait included those at fifteen along with those under fifteen, being, that he states no cases as being at the fifteenth year, but only the proportion of cases above and below that age. Had the authors taken upon themselves to assume that the cases at fifteen were included along with those below fifteen, they would have run as much risk of misrepresenting Dr T.'s real meaning as if they had supposed that those at that age were reckoned along with those above fifteen. While, then, we cannot allow that Dr Skae and Mr Benbow are chargeable with any carelessness, it is important to understand that Dr Tait's high proportion is founded on a different calculation from theirs, or that it includes a year of their lives during which it is probable a considerable number of females fall victims to this misery.

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THE Medical Reform Bill has made no progress since our last publication. At the moment we go to press, the House of Commons is but just set free from the overwhelming debate on the Maynooth question.

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\* Northern Journal of Medicine, April 1845, p. 323.

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